TECTUM INC.
The Noise Control Solution

A UNIQUE ACOUSTICAL PRODUCT

January 2010

Environmental Statement

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Tectum panels are made from renewable and sustainable raw materials.

TECTUM: A GREEN PRODUCT

Long before the environmental practices of business were scrutinized, Tectum Inc. was manufacturing sustainable building products in an environmentally safe, non-toxic process. Since 1949, Tectum panels have been made from renewable wood sources, magnesium from sea water, and recovered magnesium waste. The panels contain no toxic binders, no asbestos or formaldehyde, and are naturally degradable in a landfill.

Composition of Tectum Panels

The wood fibers (excelsior) used in Tectum panels come from Wisconsin Aspen trees. The Wisconsin Aspen is a self-propagating type tree. When cut, a new tree will begin to grow back from its root structure. In addition, all Wisconsin Aspen used for Tectum is air-dried. No drying kilns are used. The wood is stored in ranks to age naturally. No chemicals are used in the production of any excelsior purchased by Tectum Inc.

Tectum Inc. only purchases excelsior from a single source that is affiliated with both the Forest Stewardship Council (FSC) and the Sustainable Forestry Initiatives (SFI) programs. These programs are a comprehensive system of objectives and performance measures that integrate the perpetual growing and harvesting of trees with the protection of wildlife, plants, soil and water quality. All loggers are trained to adhere to FSC and SFI principles.

Magnesium oxide is mixed with magnesium sulfate (Epsom salts) to form the primary binder. Tectum Inc. manufactures the magnesium sulfate solution on site using waste material that has been generated since production began in 1949. The secondary binder is composed of sodium silicate and calcium carbonate (limestone). All of the water used in the manufacture of Tectum is captured and recycled.

Durability

Tectum Inc. offers a Limited Lifetime Warranty on all Tectum products. While many other building materials have replacement rates greater than twenty percent, replacement of Tectum acoustical panels is seldom required. Tectum panels can also receive up to six coats of spray-applied paint with no loss in acoustical value, increasing the life span of the panels.

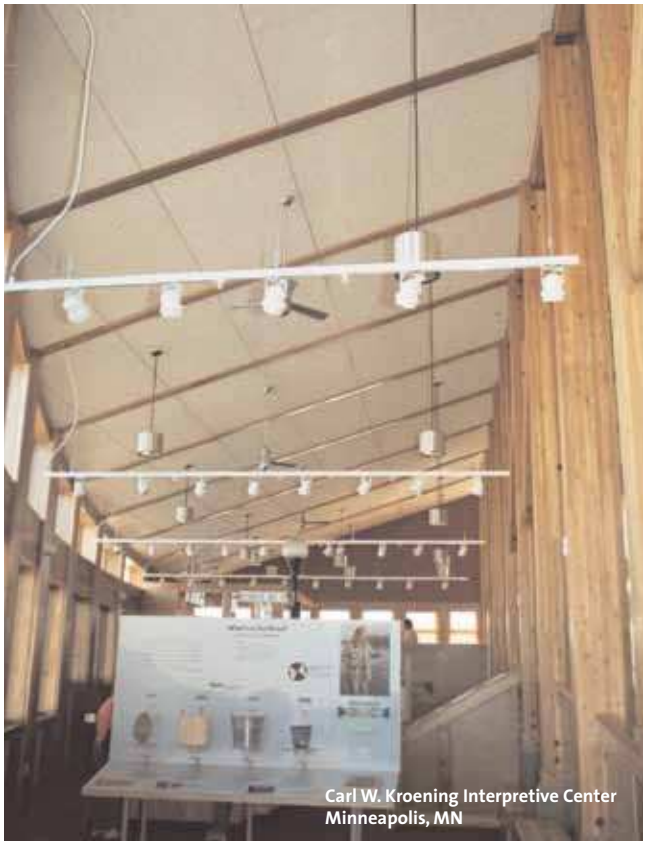
When recommended installation procedures are observed, Tectum panels can be removed and re-installed, or installed in other areas.

Disposal

Tectum panels are a non-hazardous waste and can be safely deposited in landfills. As an alternative, the panel waste has been successfully added to compost and used as a soil amendment. No packaging is required to transport Tectum panels eliminating the need for packaging disposal.

Tectum panels provide acoustical treatment when abuse resistance is also a priority. The panels are manufactured in an environmentally friendly process from sustainable raw materials and can be renewed by repainting and reused by demounting. They will last for years, and waste may be safely deposited in landfills. Tectum products continue to meet the needs of owners, architects and building industry professionals who require green building products.


John Heinz National Wildlife Refuge
Tinicum, PA


Carl W. Kroening Interpretive Center
Minneapolis, MN

THERE IS NO ASBESTOS, NOR HAS THERE EVER BEEN ANY ASBESTOS, USED IN TECTUM PRODUCTS.

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TECTUM PRODUCTS AND LEED*

The LEED* building rating system has been established to evaluate every aspect of the construction process and building components used in new and existing buildings. While the main emphasis is on energy efficiency, conservation and the overall "health" of the building, the use of "green" products contributes favorably to the overall rating of a building.

Tectum Inc. fully endorses the LEED Green Building Rating System. A number of our representatives are LEED Accredited Professionals and members of local USGBC Chapters. Our products contribute to the following credits of the LEED rating system:

***EA Prerequisite 2*: Fundamental Energy Performance** - Tectum Structural Roof Deck Systems provide high R-Values. Installations have few thermal shortcuts providing very complete R-value coverage.

***EA Credit 1*: Optimized Energy Performance** - Tectum Structural Roof Deck Systems provide high R-Values up to R-43.

***MR Credits 2.1 and 2.2*: Construction Site Waste Management** - Tectum products are typically cut to 1'-0" length increments at the factory reducing or eliminating field cuts and waste at the site. Tectum products are shipped without the need for boxing and minimal if any crating, reducing packaging for minimal site waste. Tectum products are biodegradable and can be composted or ground up for soil amendment, eliminating landfill needs.

***MR Credits 4.1 and 4.2*: Recycled Content** - The Tectum Finale Wall Panel has 40% Post Industrial recycled content by weight and 9% Post Consumer recycled content by value. Tectum Fabri-Tough Wall Panels have 33% Post Industrial recycled content by weight as the Hytex Acoustical Fabric is 100% recycled material. Fabri-Tough Wall Panels have 27% Post Consumer recycled content by value.

***MR Credit 7*: Certified Wood** - Tectum products are made from Wisconsin Aspen wood fibers, harvested in Wisconsin by American Excelsior Company. American Excelsior Company is FSC and SFI certified. A Chain-Of-Custody letter (SW-COC-002249) is available upon request.

***EQ Prerequisite 3*: Minimum Acoustical Performance** - (LEED For Schools) Tectum products are manufactured primarily as an acoustical product. Tectum products apply directly to this strategy by providing abuse-resistant acoustical solutions. Tectum products can be field painted up to six times without degrading acoustical performance, offering a life-of-the-building, long service life, low maintenance acoustical solution.

***EQ Credit 3.1 and 3.2*: Construction IAQ Plans** - Tectum products can be field painted if required, but do not need to be painted for use. Tectum may contribute to this strategy by eliminating the need for field painting. If field painting is desired, Tectum products do not require priming. Consult Tectum Bulletin M-77 for field painting information.

***EQ Credit 4.1*: Low-Emitting Materials, Adhesives and Sealants** - Tectum products do not contain VOC's.

***EQ Credit 4.4*: Low-Emitting Materials, Composite Wood & Agifiber Products** - Tectum products contain no Urea Formaldehyde.

***EQ 10*: Mold Prevention (LEED for Schools)** - Tectum products do not support the growth of mold or bacteria. Tested per ASTM D3273, three Tectum product samples scored a 10, 9 & 9 out of a possible 10. Tectum products are available with an anti-microbial paint if desired.

***EQ Credit 11*: Low-Impact Cleaning and Maintenance Equipment Policy (LEED for Schools)** - Tectum products contribute favorably to this strategy as they are extremely abuse-resistant and intended for life-of-the-building service. Tectum products can be cleaned using a vacuum cleaner or a broom and do not require special cleaning supplies.

TECTUM PRODUCTS AND LEED* CONTINUED

***ID 1 - 1.4*: Innovation in Design** - Tectum Composite Structural Roof Decks may qualify for this strategy as they provide structural roof deck, finished ceiling, acoustics, thermal value and nailable roofing substrate in one quick-to-install panel. Use of Tectum Structural Roof Deck Systems provide the synergy of four trades into one product, reducing construction time, shipping miles and energy, as the panels are factory-assembled and shipped complete and ready for installation.

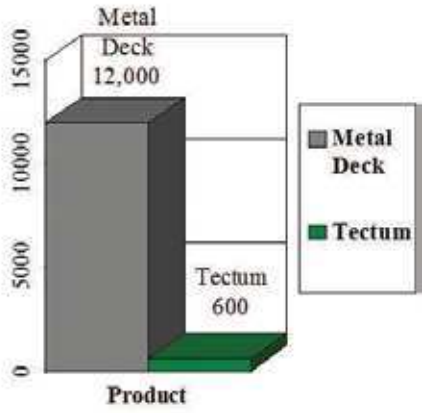
Tectum™ products are listed in the GreenSpec Directory** published by Building Green from the editors of Environmental Building News. Tectum™ Roof Deck is noted on page 69, section 3511 and Tectum™ Interior Products are listed on page 230, section 9512.
*Trademark of The U.S Green Building Council
**Trademark of Building Green, Inc.

TECTUM PRODUCTS CARBON FOOTPRINT

A **CARBON FOOTPRINT** is "the total set of GHG (greenhouse gas) emissions caused directly and indirectly by an individual, organization, event or product." An individual, nation or organization's carbon footprint is measured by undertaking a GHG emissions assessment.

Tectum Products vs. Steel Roof Deck

- Tectum products require approximately **600 BTU's** of energy per square foot of material produced.
- Steel decking requires approximately **12,000 BTU's*** of energy per square foot of material produced.
- **Tectum products are 20 times more energy efficient to produce than steel.** This reduces the need for fossil fuels and the CO_2 produced by burning those fuels.



*American Iron and Steel Institute, October, 2005

AIR QUALITY TESTING - CALIFORNIA'S SECTION 01350 FOR THE CLASSROOM

The Tectum cementitious 3-in. thick wood fiber product was monitored for emissions of total volatile organic compounds (TVOC), individual volatile organic compounds (IVOC), formaldehyde and other aldehydes over the test period. Air samples were collected following installation of the floor assembly in the chamber. Measurements were made and predicted exposures were calculated according to California's Section 01350 protocol. As specified in this protocol, results at 96 hours, after 10 days of conditioning, were compared to (one-half) the current Chronic Reference Exposure Levels (Chronic RELs), as adopted from the California OEHHA list, February 2005 (3). All identified VOCs were also compared to the California-EPA OEHHA Proposition 65 list (4) and the California-EPA Air Resource Board list of Toxic Air Contaminants (TACs) (5).

Ventilation Rate	Room Volume	Surface Area Product Covers
Classroom		
0.90 air changes per hour (ach)	12.19 m x 7.32 m x 2.59 m = 231.07 m^3 (40 x 24 x 8.5 ft. = 8,160 $ft.^3$)	94.6 m^2

TEST RESULTS

The Tectum cementitious wood fiber product meets the IAQ emission requirements of California's Section 01350 for the classroom. Test available upon request from Tectum Inc.

FUNGUS RESISTANCE TEST: ENGINEERING REPORT No. 31106-1JJ

Object
Subject three (3) samples of Tectum natural to a Fungus Resistance Test in accordance with ASTM D3273.

Conclusions
Post-exposure examination found minimal fungal growth on the front surface of the samples and moderate growth on the back surfaces. The three test units had an ASTM D3273 rating of 10, 9, 9 on the front surfaces with a 10 rating being the total absence of mold.

TEST REQUESTED
Subject the test samples to a Fungus Test in accordance with ASTM D 3273-94 "Standard Test Method: Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber."

The fungus used in the test shall be: (1) Aureobasidium pullulans, (2) Aspergillus niger, and (3) Penicillium. The test soil shall be greenhouse-grade potting soil containing 25% peat moss. The test soil shall be spread across the bottom of the test cabinet. The soil shall be inoculated with mold suspensions prepared using the three fungi. Allow 2 weeks of continuous operation for the mold to sporulate and equilibrate with the environment before starting the test. Viability of the mold growth can be checked by placing several agar plates in the cabinet. Mold growth should be medium-heavy to heavy and cover the complete surface of the agar plate.

The test specimens shall be suspended vertically with the bottom of each specimen approximately 3 inches above the surface of the inoculated soil. There shall be sufficient spacing between test units to allow free air movement. The samples shall be incubated at 90°F ±2°F and 95% to 98% relative humidity for 7 weeks. The test articles shall be inspected every week and mold growth recorded.

RESULTS
The final rating in the following table is in accordance with ASTM D3273-94. An ASTM rating of 10 is the total absence of mold growth. (For more information on mold growth on Tectum products or to request a copy of the test results, please contact Tectum Inc.)

Sample	% Fungal Growth on Front Face	Final ASTM Rating on Front Face
1	5%	10
2	10%	9
3	10%	9

FUNGUS RESISTANCE TEST: ENGINEERING REPORT No. 31106-1KK

Object
Subject three (3) samples of Tectum painted white to a Fungus Resistance Test in accordance with ASTM D3273.

Conclusions
Post-exposure examination found minimal fungal growth on the front surface of the samples and medium growth on the back surfaces. The three test units had an ASTM D3273 rating of 9, 9, 9 on the front surfaces with a 10 rating being the total absence of mold.

TEST REQUESTED
See Page 5 Above (TEST REQUESTED).

RESULTS
The final rating in the following table is in accordance with ASTM D3273-94. An ASTM rating of 10 is the total absence of mold growth. (For more information on mold growth on Tectum products or to request a copy of the test results, please contact Tectum Inc.)

Sample	% Fungal Growth on Front Face	Final ASTM Rating on Front Face
1	10%	9
2	10%	9
3	10%	9

CRAILO TECTUM B.V. IN AMSTERDAM FUNGI TEST

The following are the results of a test performed by Crailo Tectum B.V. in Amsterdam to determine the growth of fungi on Tectum panels.

After 10 weeks of exposure at 23oC and 70 - 75% R.A., no growth of fungi had been observed (magnification 8x) on the surface of the Tectum panels, both natural and coated with paint.

Sample Number	Mass increase (%) after 10 weeks 23 oC/ 70 - 75% R.A.	Visual inspection (Magnification 8x) On growth of fungi of the Tectum panels After 10 weeks exposure
A, natural	14.0	None
B, natural	12.1	None
C, painted white	11.2	None
D, painted white	9.9	None

ECOSPUN - HYTEX FABRICS FOR FABRI-TOUGH WALL PANELS

Fabri-Tough Wall Panels are manufactured with a non-woven fabric facer produced by Hytex Industries, Inc. Hytex Industries, Inc. is committed to providing environmentally-sensitive products to the commercial interiors market.

Ecospun is a high-quality polyester fiber made from 100% certified recycled plastic PET bottles. It can go into any textile product such as clothing, blankets, carpets, wall coverings, auto interiors, home furnishings and craft felt. Fabrics made from Ecospun fiber are chemically and functionally nearly identical to those made from non-recycled fabrics. The difference is that Ecospun fiber is made without depleting the Earth's natural resources. With properties such as strength, softness, shrinkage-resistance and colorfastness, market applications for Ecospun are expanding every day.

Hytex fabrics are Ecospun, produced with no PVC (polyvinyl chloride) or chlorene, no VOC's or plasticizers, no ODS's (ozone depleting substances), heavy metals or formaldehyde.

John Heinz National Wildlife Refuge at Tinicum, PA, required "green" building products. They turned to Tectum Inc. for aesthetically pleasing acoustic wall and ceiling panels.

- Two million plastic bottles are used in the U.S. every ten minutes and 51 billion plastic bottles go into landfills annually.
- The 51 billion plastic bottles in U.S. landfills end-to-end would wrap around the earth 5 times.
- It will take 700 years before plastic bottles in landfills start to decompose.
- Less than 30% of plastic bottles in the U.S. are actually recycled.
- Currently only 11 U.S. states have direct deposit.

Happy Feet Plus in Clearwater Fl. is the first retail GOLD certified LEED building in the country. Tectum roof deck helped contribute to the 39 overall points that Happy Feet earned.

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