

October 24, 2008

Richmond Eshaghoff
Dyerich Flooring Designs, Ltd.
35 Dale Avenue
Paterson, N.J. 07505

RE: Addendum to Research regarding LEED Credits relating to flooring product

Dear Mr. Eshaghoff,

The information provided in this document is in addendum to the report furnished to you previously and includes the specific information relating to the criteria for Forest Stewardship Council certified wood products and low emission wood products within the Leadership in Energy & Environmental Design (LEED) Rating Systems for green building certification. The information has been formatted specifically as requested as well.

It is important to note that there may be more testing and/or certification necessary for the products in order to gain the maximum number of credits that the product could effectively contribute to. Specifically IEQ Credit 4.2 listed below must be confirmed before a specific Solution can be offered. You will need to either research or test the VOC content of the finishes for the product and assure that they are within the limits listed. If they are within the limits listed, you should publish a document containing the information for the finishes and the following statement can then be put into the "Solution" portion of the credit research for that credit:

The VOC content of the finishes applied to the Pre-finished Terra Legno products are within the limits specified by the credit. Proof of the VOC content may be requested if necessary for documentation of this credit.

In addition, another ½ credit could be achieved by your product under the LEED for Homes Rating System for MR Credit 2 if you were to achieve 'FloorScore Certification for the product through Scientific Certification Systems (<http://www.scs-certified.com/ecoproducts/indoorairquality/floorscore.html>). This would be the method under that rating system of certifying that the product is Low-VOC. If you have or gain this certification, you can add ½ point to the Number of Credits portion of that research and can add the following statement to the end of the 'Solution' portion of that credit research:

In addition, another ½ point could be achieved for the products SCS Floorscore Certification.

LEED – NC (New Construction) Rating System (September 2006 publication)

Within the LEED-NC Green Building Rating System, installation of Terra Legno products could specifically contribute to the achievement of **up to 4 points**. The following information outlines each of the credits to which the product could be applied, including the intent and requirements of the credit and the specific solution that the Terra Legno product would contribute.

*The following information provided for each of the applicable LEED credits (in the "Number of possible credits", "Credit Intent" and "Credit Requirements" sub-sets) is referenced directly from the LEED for New Construction Version 2.2 Reference Manual Second Edition as published by the U.S. Green Building Council in September of 2006.

- **MR – Credit 7 – Certified Wood**

- **Number of possible credits*:** 1

- **Credit Intent*:**

Encourage environmentally responsible forest management.

- **Credit Requirements*:**

Use a minimum of 50% of wood-based materials and products, which are certified in accordance with the Forest Stewardship Council's (FSC) Principles and Criteria, for wood building components. These components include, but are not limited to, structural framing and general dimensional framing, flooring, sub-flooring, wood doors and finishes.

Include materials permanently installed in the project. Wood products purchased for temporary use on the project (e.g., formwork, bracing, scaffolding, sidewalk protection and guard rails) may be included in the calculation at the project team's discretion. If any such materials are included, all such materials must be included in the calculation. If such materials are purchased for use on multiple projects, the applicant may include these materials for only one project, at its discretion. Furniture may be included, providing it is included consistently in MR Credits 3-7.

- **Solution:** Terra Legno products with either FSC Pure or FSC Mixed Certifications contribute to the achievement of this credit. The Chain of Custody certification is printed on the product or product packaging and so no Chain of Custody letter is required for this product. The product should be identified and listed with all the new wood products used in the project and factored as part of the FSC-certified Wood Material Value using 'Equation 1' from the LEED-NC v. 2.2 Reference Guide:

Equation 1

$$\text{Certified Wood Material Percentage} = \frac{\text{FSC-certified Wood Material Value (\$)}}{\text{Total New Wood Material Value (\$)}}$$

Wood components that are labeled as either "FSC-Pure" or "FSC-Mixed" are 100% FSC-certified (the latter is assured via volume credit accounting).

- **IEQ – Credit 4.2 – Low-Emitting Materials: Paints & Coatings**

- **Number of possible credits*:** 1

- **Credit Intent*:**

Reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.

- **Credit Requirements*:**

Paints and coatings used on the interior of the building (defined as inside of the weatherproofing system and applied on-site) shall comply with the following criteria:

Clear wood finishes, floor coatings, stains, sealers, and shellacs applied to interior elements: Do not exceed VOC content limits established in the South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings, rules in effect on January 1, 2004. The following list of SCAQMD VOC limits are examples. Refer to the standard for complete details.

- Clear wood finishes: Varnish: 350g/L; Lacquer: 550g/L
- Floor Coatings: 100g/L
- Sealers: Waterproofing sealers: 250g/L; Sanding sealers: 275g/L; All other sealers: 200g/L
- Shellac: Clear: 730g/L; Pigmented: 550g/L
- Stains: 250g/L

- **Solution:**

- **IEQ – Credit 4.4 – Composite Wood & Agrifiber Products**

- **Number of possible credits*:** 1

- **Credit Intent*:**

Reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.

- **Credit Requirements*:**

Composite wood and agrifiber products used on the interior of the building (defined as inside of the weatherproofing system) shall contain no added urea-formaldehyde resins. Laminating adhesives used to fabricate on-site and shop-applied composite wood and agrifiber assemblies shall contain no added urea-formaldehyde resins.

Composite wood and agrifiber products are defined as: particleboard, medium density fiberboard (MDF), plywood, wheatboard, strawboard, panel substrates and door cores. Furniture and equipment are not considered base building elements and are not included.

- **Solution:** Terra Legno products have been tested for formaldehyde content according to the requirements of the HPVA EF 2002 3.10 and ASTM E 1333 Standards and have been found to exceed the requirements. Proof of the findings may be requested to accompany the product listing and narrative required as documentation for this credit.

- **ID – Innovation & Design Process**

- **Number of possible credits*:** 1

- **Credit Intent*:**

To provide design teams and projects the opportunity to be awarded points for exceptional performance above the requirements set by the LEED for New Construction Green Building Rating System and/or innovative performance in Green Building categories not specifically addressed by this Rating System.

- **Credit Requirements*:**

In writing, identify the intent of the proposed innovation credit, the proposed requirement for compliance, the proposed submittals to demonstrate compliance, and the design approach (strategies) that might be used to meet the requirement.

**Note (from MR Credit 7): Exemplary Performance – Project teams may earn an Innovation in Design point for exemplary performance when the requirements reach the next incremental step. For FSC-certified wood, the credit calculations must be 95% FSC-certified wood or greater.*

**Note: IEQ Credit 4 – Low-Emitting Materials are not eligible for exemplary performance ID credit.*

- **Solution:** Specify that 95% or more of the new wood products used in the project are FSC-certified, including Terra Legno products to achieve exemplary performance in this category.

LEED – Homes Rating System (January 2008 publication)

Within the LEED for Homes Green Building Rating System, installation of Terra Legno products could specifically contribute to the achievement of **one prerequisite and up to 1 ½ points**. The following information outlines each of the credits to which the product could be applied, including the intent and requirements of the credit and the specific solution that the Terra Legno product would contribute.

*The following information provided for each of the applicable LEED credits (in the “Number of possible credits”, “Credit Intent” and “Credit Requirements” sub-sets) is referenced directly from the LEED for Homes Rating System document as published by the U.S. Green Building Council in January of 2008.

- **ID (Innovation and Design Process) – Credit 2.1 Durability Planning / Indoor Moisture Control**

- **Number of possible credits*:** Prerequisite (mandatory)

- **Credit Intent*:**

Promote durability and high performance of the building enclosure and its components and systems through appropriate design, materials selection, and construction practices.

- **Credit Requirements*:**

Note: USGBC and its representatives are responsible only for verifying the completion of LEED for Homes requirements; such verification in no way constitutes a warranty as to the appropriateness of the selected durability measures or the quality of implementation (see Disclaimer, page 2 of the LEED for Homes Rating System Guide).

c) Identify and incorporate all the applicable indoor moisture control measures listed in Table 1.

Table 1. Indoor Moisture Control Measures

Location or equipment	Required moisture control measure
Tub, showers, and spa areas	Use nonpaper-faced backer board on walls.
Kitchen, bathroom, laundry rooms, and spa areas	Use water-resistant flooring; do not install carpet.
Entryway (within 3 feet of exterior door)	Use water-resistant flooring; do not install carpet.
Tank water heater in or over living space	Install drain and drain pan.
Clothes washer in or over living space	Install drain and drain pan, or install accessible single-throw supply valve.
Conventional clothes dryer	Exhaust directly to outdoors.
Condensing clothes dryer	Install drain and drain pan.

e) List all the durability measures and indicate their locations in the project documents in a durability inspection checklist.

- **Solution:** Terra Legno products can be installed as water-resistant flooring in Kitchens, Bathrooms, Laundry rooms, Spa Areas and at Entryways for compliance with the requirements of this credit.

- **MR (Materials & Resources) – Credit 2: Environmentally Preferable Products**

- **Number of possible credits*:** Prerequisite (mandatory) + up to 1.5 points

- **Credit Intent*:**

Increase demand for environmentally preferable products and products or building components that are extracted, processed and manufactured within the region.

- **Credit Requirements*:**

2.1 FSC Certified Tropical Wood. *Meet the following two requirements, as applicable:*

a) Provide all wood product suppliers with a notice (below) containing all of the following elements:

i. a statement that the builder's preference is to purchase products containing tropical wood only if it is FSC-certified;

Notice to Vendors: [The company] prefers to purchase products that contain tropical wood only if they are certified according to the guidelines of the Forest Stewardship Council (FSC). Please provide the country of manufacture of each product you expect to supply to us. Also please provide a list of FSC-certified products you can supply.

ii. a request for the country of manufacture of each product supplied; and

iii. a request for a list of FSC-certified tropical wood products the vendor can supply.

b) If tropical wood is intentionally used (i.e., specified in purchasing documents), use only FSC-certified tropical wood products. Reused or reclaimed materials are exempt.

Note: A species of wood is considered tropical for the purposes of this prerequisite if it is grown in a country that lies between the Tropics of Cancer and Capricorn.

2.2 Environmentally Preferable Products (0.5 point each, max. 8 points) – Use building component materials that meet one or more of the criteria below. Except as noted in Table 24, a material must make up 90% of the component, by weight or volume. A single component that meets each criterion (i.e., environmentally preferable, low emissions, and local sourcing) can earn points for each.

a) Environmentally preferable products (0.5 point per component). Use products that meet the specifications below:

Floor: 45% (0.5 pt.) or 90% (1 pt.) of the total floor area of the project is an Environmentally Preferable Product (EPP) such as linoleum, cork, bamboo, FSC-certified or reclaimed wood, sealed concrete or recycled content flooring or combination.

Emission specifications: Automatic (0.5 pt.) for 100% hard surface flooring, additional (0.5 pt.) available for SCS FloorScore certified flooring product.

- o **Solution:** The country of manufacture of each product and a list of FSC-certified tropical wood products may be furnished on request to comply with the prerequisite portion of this credit. Up to 1 ½ points could be achieved by using Terra Legno products as all or a portion of the 45%, 90% or 100% benchmarks for a EPP Hard Surface component.