

USDA BioPreferred®

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LoüTeq Solutions, LLC. Earns USDA Certified Biobased Product Label

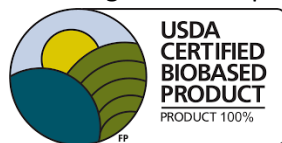
St. Louis, MO. USA (August 27, 2013) - LoüTeq. has earned the USDA Certified Biobased Product Label for its LoüTeq® (SEB) Structural Engineered Bamboo Products. The USDA Certified Biobased Product Label verifies that the products consist of the amount of renewable biobased ingredients meeting or exceeding the amounts prescribed in USDA standards. Biobased products are goods composed in whole or in significant part of agricultural, forestry, or marine materials. It also confirms that any other foreign materials within the products such as additives, treatments, or adhesives are either not traceable as non-bio-based nor are they considered innate or not harmful for human or animal contact.

"I am pleased to confirm that the adhesive levels and treatments in our products are either safe or so low that when compared to bamboo in its raw form our SEB (Structural Engineered Bamboo) products show very little change, and are confirmed as safe for use in industrial and or building applications where off-gassing and air quality is a priority". Quote by Luke D. Schuette, President and CEO of LoüTeq Solutions, LLC.

All biobased amount claims are verified by independent labs and monitored by the USDA. Consumers may feel secure in the accuracy of the biobased amount and be empowered in making better informed purchasing decisions.

"We are pleased that LoüTeq has earned the USDA Certified Biobased Product Label," said Ron Buckhalt, USDA BioPreferred Program Manager. "Biobased products provide opportunities to help add value to renewable commodities, create jobs in rural communities and generate investment income."

The label is estimated to be on certified products and available for consumers by August 27th, 2013. The following is an example of the label:



About USDA BioPreferred

The USDA BioPreferred program was created by the Farm Security and Rural Investment Act of 2002 (2002 Farm Bill), and expanded by the Food, Conservation, and Energy Act of 2008 (2008 Farm Bill). The purpose is to increase the purchase and use of biobased products. The United States Department of Agriculture manages the program. Products that meet the USDA BioPreferred program requirements carry a distinctive label for easier identification by the consumer. To learn more about the USDA Certified Biobased Product Label please visit www.biopreferred.gov.

Testing Overview and Findings by Third Party Testing Lab: (Next 3 Pages)



Biobased Testing Report

Name of Contact:	Luke D. Schuette	Material:	Biobased Solid
Company:	ReNüTeq	Xceleron Sample#	XBB0083
Xceleron Client #:	XBBC1011	Submitter#	VSP-C (075) SEB
Client Address:	8000 Hall St. St. Louis	Missouri, 63147	
Date Sample Received:	7-Aug-2013	Test Standard:	ASTMD6866-12
Date Report Generated	19-Aug-2013	Test Method:	Method B

Sample Arrival



Aliquotted Sample



Approval: Eric O. G.
Signature: Eric O. G.
Review: John Brown
Signature: John Brown

Date: 20 Aug 13

Title: AMS Manager

Date: 20 Aug 2013

Title: Quality Manager

The results presented in this report relate only to the material tested.

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Xceleron Client #:	XBBC1011	Submitter#	VSP-C (075) SEB
Client Address:	1600 N. Broadway St.	St. Louis Missouri, 63147	
Date Sample Received:	7-Aug-2013	Test Standard:	ASTMD6866-12
Date Report Generated	19-Aug-2013	Test Method:	Method B

AMS Results

Percent Modern Carbon (pmC)
108.076

Uncertainty (pmC)
0.679

Conversion Factor
0.95

% Biobased
100

% Fossil Carbon
0

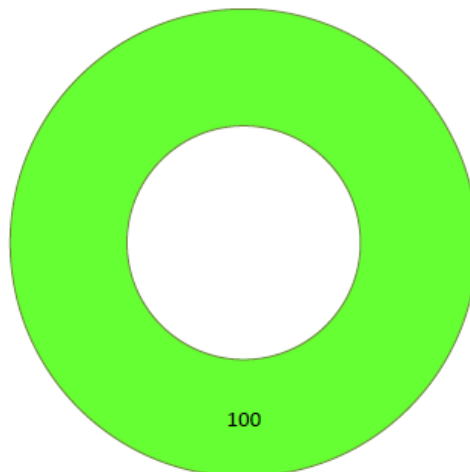
* Results greater than 100 % biobased are reported as 100%

Biobased Content

■ % Biobased

■ % Fossil Carbon

0





Biobased Testing Report

Explanation of Results

Method B of ASTM D6866-12 utilizes Accelerator Mass Spectrometry to derive a product's $^{14}\text{C}/^{12}\text{C}$ content relative to a Standard Reference Material (SRM) for modern carbon provided by the National Institute of Standards and Technology. Xceleron uses a National Electrostatics Corporation (NEC) 250 keV Single Stage Accelerator Mass Spectrometer (SSAMS) to analyze all samples sent for biobased analysis. Data generated by the SSAMS is then analyzed and results are calculated using the NEC provided *abc* analysis program. Results from the AMS are presented with units "pMC" or percent modern carbon.

According to 8th International Conference on Radiocarbon Dating, the definition of "pmC" or percent modern carbon can be defined as the following: $\text{pMC} = A_{\text{SN}}/A_{\text{ON}} \times 100\%$ where A_{SN} is defined as the specific activity of the sample and A_{ON} is the normalized sample activity in relation to the the principal radiocarbon standard, NIST Oxalic Acid I also referred to as OXI. The OXI was made from a 1955 sugar beet crop. Unfortunately, testing of thermonuclear bombs between the years of 1955 and 1963 raised the ^{14}C specific activity of the atmosphere. In order to correct for this "bomb" effect, it is internationally known that the specific activity of the atmosphere be defined as 95% the specific activity of OXI in 1950 normalized to $\delta^{13}\text{C} = -19$.

$$A_{\text{ON}} = 0.95 \times A_{\text{OXI}} \left(1 - \frac{2(19 - \delta^{13}\text{C})}{1000} \right)$$

Xceleron uses the NIST Oxalic Acid II (SRM4990C) standard which is related to OXI using the Donahue equation:

$$A_{\text{ON}} = 0.95 \times A_{\text{OXI}} \left(1 - \frac{2(19 - \delta^{13}\text{C})}{1000} \right) = 0.7459 \times A_{\text{OXII}} \left(\frac{1 - \left(\frac{25}{1000} \right)}{1 - \left(\frac{\delta^{13}\text{C}}{1000} \right)} \right)^2$$

The *abc* program from NEC uses the above equations of A_{ON} in the definition of pmC for OXI and OXII when normalizing the results to the respective standard reference materials, effectively correcting for the 1950 "bomb" carbon effect.

Results from the AMS routinely have a precision less than 1 pMC; however, ASTM D6866 states that the reported "% biobased" results have at least an uncertainty of ± 3 "% biobased" absolute. The term "% biobased" is defined as the pMC value from the AMS multiplied by a conversion factor of 0.95. This conversion factor is used to relate the present day radiocarbon level of the atmosphere, 105 pMC, to 100 "% biobased" or $105 [\text{pMC}] = 100 [\% \text{ biobased}]$ where [% biobased] is the unit of measurement for biobased content. For example, if a result from the AMS is 80 [pMC], [% biobased] can be calculated as follows:

$$80 [\text{pMC}] \left(\frac{100 [\% \text{ biobased}]}{105 [\text{pMC}]} \right) = 80 \times 0.95 [\% \text{ biobased}] = 76 [\% \text{ biobased}]$$