

# Environmental Choice<sup>M</sup> Program

## CERTIFICATION CRITERIA DOCUMENT

### CCD-157



**Product: Resin for Engineered Wood Products**

### Introduction

Environment Canada's Environmental Choice<sup>M</sup> Program is pleased to publish the following national Certification Criteria Document on ***Resin for Engineered Wood Products***.

The Environmental Choice Program is designed to support a continuing effort to improve and/or maintain environmental quality by reducing energy and materials consumption and by minimizing the impacts of pollution generated by the production, use and disposal of goods and services available to Canadians.

Engineered wood products (e.g., plywood, laminated veneer lumber (LVL), oriented strand board (OSB), particle board) are constructed from a variety of wood elements (etc. sheets, chips, particles, etc.) bound together with a glue or resinous material. The binding resin is a liquid mixture of chemicals that react, harden and cure with heat. These "thermosetting resins" used in engineered wood products are typically a mixture of phenol and formaldehyde or urea and formaldehyde or melamine and formaldehyde. Phenol- formaldehyde resin is used in oriented strand board, plywood, laminated veneer lumber and hardboard. Urea- formaldehyde resin and melamine formaldehyde resin is used primarily in the production of particle board and medium density fibreboard.

The phenol component of the phenol - formaldehyde resin is usually derived from petroleum. Substitutes for petroleum-derived phenol that are derived from the breakdown of renewable plant material are currently available. This certification criteria document recognizes the environmental benefit of Resin for Engineered Wood Products containing phenol substitutes derived from renewable materials.

Based on a review of currently available life cycle information, the product category requirements will produce an environmental benefit through:

- a reduction in toxic emissions to the environment; and
- a reduction in the use of non-renewable resources.

Life cycle review is an ongoing process. As information and technology change, the requirements will be reviewed and possibly amended.

Environment Canada anticipates that **Resin for Engineered Wood Products** conforming to this certification criteria document will apply to the Environmental Choice Program for verification and subsequent authority to label the qualifying services with the EcoLogo<sup>M</sup>.

## Notice

Throughout this document, any reference to a standard or guideline means to its latest edition.

The Environmental Choice Program (ECP) reserves the right to accept equivalent test data for the test methods specified in this document.

## Definitions

1. In this set of requirements, please note the following definitions:

"ASTM" means American Society for Testing and Materials;

"engineered wood product" means a wood-based board, sheet, panel or other product that is constructed from a variety of wooden elements (sheets, stands, chips, fibres, etc.) and bound together with a glue or resinous material. Engineered wood products include, *inter alia*, particle board, oriented strand board (OSB) and plywood;

"laminated veneer lumber" or LVL means an engineered wood product created by layering wood veneers (thin sheets) with waterproof adhesive into blocks of material. Each veneer layer is laid with the wood grain oriented in the same direction. LVL is also known as Structural Composite Lumber (SCL);

"naturally-derived phenol substitutes" means a chemical compound or formulation derived from wood, agricultural and/or other organic waste for the purpose of replacing phenol in industrial resins. *Certification Criteria Document (CCD) 144 Naturally-Derived Phenol Substitutes* is a set of Environmental Choice Program criteria, a copy of which is available from [www.environmentalchoice.com](http://www.environmentalchoice.com) or at the address below

"oriented strand board" or OSB means an engineered wood product created from layers of wood strands with a waterproof adhesive manufactured into a sheet or panel. The strands in the external layer are aligned and parallel to the board length or width; the strands in the center layer or layers can be randomly oriented, or aligned, generally at right angles to the strands of the external layer;

"plywood" means an engineered wood product created by layering wood veneers (thin sheets) with waterproof adhesive into a sheet or panel of wood. Each veneer layer is laid with the wood grain oriented at right angles;

"Resin for Engineered Wood Products" means a polymerized adhesive compound that binds together an engineered wood product's wooden elements (including, *inter alia*, sheets, stands, chips and fibres). These resins are typically a mixture of phenol and formaldehyde or urea and formaldehyde or melamine and formaldehyde. Phenol- formaldehyde resin is used in oriented strand board, plywood, laminated veneer lumber and hardboard. Urea- formaldehyde and melamine - formaldehyde resin is used primarily in the production of particle board and medium density fibreboard;

"TVOC" means total volatile organic compounds;

"volatile organic compound" or "VOC" means any organic compound which participates in atmospheric photochemical reactions. It excludes those organic compounds which the ECP designates as having negligible photochemical reactivity; and

## Category Definition

2. This category includes **Resin for Engineered Wood Products** further defined in the following subcategories.
  - (a) Resin for oriented strand board
  - (b) Resin for laminated veneer lumber / plywood

**Note: Other subcategories may be added at a later date**

## General Requirements

3. To be authorized to carry the EcoLogo<sup>M</sup>, the **Resin for Engineered Wood Products** must:
  - (a) meet or exceed all applicable governmental and industrial safety and performance standards; and
  - (b) be manufactured in such a manner that all steps of the process, including the disposal of waste products arising therefrom, will meet the requirements of all applicable governmental acts, by laws and regulations including, for facilities located in Canada, the *Fisberies Act* and the *Canadian Environmental Protection Act (CEPA)*.

## Product Specific Requirements

4. To be authorized to carry the EcoLogo<sup>N</sup>, the **Resin for Engineered Wood Products** must:
  - (a) be manufactured with at least 5% v/v of a phenol substitute meeting the requirements of *Certification Criteria Document (CCD) 144 Naturally-Derived Phenol substitutes*;
  - (b) after April 1, 2008 be manufactured with at least 10% v/v of a phenol substitute meeting the requirements of *Certification Criteria Document (CCD) 144 Naturally-Derived Phenol substitutes*;
  - (c) meet the requirements set out in ASTM D2559-04 Standard Specification for Adhesives for Structural Laminated Wood Products for Use Under Exterior (Wet Use) Exposure Conditions; and
  - (d) not cause engineered wood products made with this resin to emit TVOC in excess of 0.200 mg/m<sup>2</sup> per hour after 24 hours greater than the emission of unresinated hot stacked treated wood furnish, when measured using ***ASTM D6330-98 Standard Practice for Determination of Volatile Organic Compounds (Excluding Formaldehyde) Emissions from Wood-Based Panels Using Small Environmental Chambers Under Defined Test Conditions***;



## Verification

5. Verification of 4(a) and 4(b) shall occur for every 2,500 megatonnes of finished resin product or every six months, whichever is arrived at sooner and is based on results (e.g., representative samples, formulations and/or batch records) forwarded from the applicant to the ECP.
6. The ECP requires immediate notification of any and all new formulations of **Resin for Engineered Wood Products** claiming to meet the requirements of this Certification Criteria Document.
7. To verify a claim that a product meets the criteria listed in this document, the ECP will require access, as is its normal practice, to relevant purchasing records, quality control and production records and the right of access to production facilities on an announced basis.
8. Compliance with requirement 3(b) shall be attested to by a signed statement of the Chief Executive Officer or the equivalent officer of the licensee. The ECP shall be advised in writing immediately by the licensee of any noncompliance which may occur during the term of the license. On the occurrence of any noncompliance, the license may be suspended or terminated as stipulated in the license agreement.

## Conditions for EcoLogo Use

8. The EcoLogo may appear on wholesale or retail packaging, or on the product itself, provided that the product meets the requirements in this document.
9. All licensees and authorized users must comply with the ECP's *Guide to Proper Use of the EcoLogo<sup>M</sup>* regarding the format and usage of the EcoLogo.
10. Any accompanying advertising must conform with the relevant requirements stipulated in this guideline, the license agreement and the ECP's *Guide to Proper Use of the EcoLogo<sup>M</sup>*.
11. It is recommended that a criteria statement appear with the EcoLogo whenever the EcoLogo is used in association with the **Resin for Engineered Wood Products**. The intent of this statement is to provide clarification as to why the product was certified and to indicate constraints to which the certification is limited. This is to ensure no ambiguity over, or misrepresentation of, the reason(s) for certification.

ECP recommended criteria statement wording for products in subcategory 2 (a) or 2 (b) is “Contains at least 5% of an ECP-certified renewable resin component” prior to August 15, 2006, and after August 15, 2006 is “Contains at least 10% of an ECP-certified renewable resin component” The licensee may propose other wording for the criteria statement, but any such proposed wording must be approved by the Environmental Choice Program.

	<p><b>For more information about the EcoLogo<sup>TM</sup> Program, please direct your inquiry to:</b> The EcoLogo<sup>TM</sup> Program 171 Nepean Street, Suite 400 Ottawa, ON, K2P 0B4 Phone: 1.800.478.0399 www.ecologo.org</p>	
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