

Certified Low-Emission Composite Wood Products

Last Updated: 07/27/2016

Scope



In all living spaces, utilize third-party certified low-emission composite wood materials that are designed to reduce human exposure indoors to individual VOCs. The [How to Find Indoor airPLUS Compliant Low Emission Products](#) document provides guidance on identifying compliant products including industry databases and examples of product labeling.

These specifications apply to:

- Structural Plywood and oriented strand board
- Hardwood plywood
- Particleboard and MDF products
- Cabinetry

See the [Compliance Tab](#) for related codes and standards requirements, and criteria to meet national programs such as DOE's Zero Energy Ready Home program, ENERGY STAR Certified Homes, and Indoor airPLUS.

Structural plywood and oriented strand board (OSB)	
Requirement: Use only products certified as compliant with F2 or F2C, as appropriate, and made with moisture-resistant adhesives as indicated by "Exposure 1" or "Exterior" on the American Plywood Association (APA) trademark.	
Meet either standard below	How to find compliant products
PS 2-09 or PS 2-20	Look for the APA F2 or F2C label. Building codes in the U.S. require use of F2 or F2C panels when used for structural purposes. These products are widely available. List of manufacturers that produce APA F2 or F2C products: http://www.apawood.org/wood
	
Hardwood Plywood	
Requirement: Use only hardwood plywood products certified as compliant with Formaldehyde emissions requirements of ANSI/APA HP-3-2009, OR CA Airborne Toxic Control Measure (ATCM) to Reduce Formaldehyde Emissions from Composite Wood Products.	
Meet either standard below	How to find compliant products
ANSI/APA HP 3-2009	Look for the HPVA HP-3 label on products, packaging, and/or spec sheets. The HPVA HP-3 certification label demonstrates compliance below California ATCM for formaldehyde and HCHO 0.054 Formaldehyde level. Find only HPVA HP-3 Compliant Composite Wood Products Manufacturers here: http://www.hpva.org/Default.aspx?CATEGORIES=07&ITEMS=07&ITEMS=07&ITEMS=07&ITEMS=07
	
	

The [How to Find Indoor airPLUS Compliant Low Emission Products](#) document provides guidance on identifying compliant products including industry databases and examples of product labeling. The guide also includes more detailed descriptions of the compliant third-party standards and certifications applicable to low-formaldehyde composite wood. Utilize this guide when outlining detailed product certifications to be included in the project specifications and/or subcontractor bid package.

Ensuring Success

To ensure Indoor airPLUS Item 6.1 requirements are met, incorporate the requirements for product certification into the project's specifications and/or bid package. Require documentation of product compliance for each product submittal from sub-contractors and suppliers.

Climate

No climate specific information applies.

Training

Right and Wrong Images

None Available

CAD

None Available

Compliance

The Compliance tab contains both program and code information. Exact code language is copyrighted and may require purchase from the publisher. While we continually update our database, links may have changed since posting. Please contact our webmaster if you find broken links.

[DOE Zero Energy Ready Home](#)

Zero Energy Ready Home (Rev. 03) Exhibit 1, Item 6 “Indoor Air Quality” requires that builders meet the EPA Indoor airPLUS Verification Checklist and Construction Specifications.

[EPA Indoor airPLUS](#)

The Indoor airPLUS Verification Checklist (Version 1 Rev. 03) states:

6.1: Composite Wood

Structural plywood and oriented strand board (OSB): Use only products certified compliant with:

- PS1 or PS2, as appropriate, and made with moisture-resistant adhesives as indicated by “Exposure 1” or “Exterior” on the [American Plywood Association \(APA\)](#) trademark.

Hardwood plywood: Use only products certified compliant with:

- Formaldehyde emissions requirements of [ANSI/HPVA HP-1-2009](#); **OR**
- [California Airborne Toxics Control Measure \(ATCM\) to Reduce Formaldehyde Emissions from Composite Wood Products.](#)

Particleboard and MDF products: Use only products certified compliant with:

- California ATCM to Reduce Formaldehyde Emissions from Composite Wood Products; **OR**
- Formaldehyde emissions requirements of [ANSI A208.1 \(particleboard\)](#) and [A208.2 \(MDF\)](#); **OR**
- [ECC Sustainability Standard by the Composite Panel Association](#); **OR**
- [GREENGUARD or GREENGUARD GOLD Certification.](#)

Cabinetry: Made with component materials (plywood, particleboard, MDF) that are certified to comply with:

- The appropriate standards above; **OR**
- Registered brands or products in plants certified under the [Kitchen Cabinet Manufacturers Association’s \(KCMA\) Environmental Stewardship Certification Program \(ESP 05-12\)](#); **OR**
- [GREENGUARD or GREENGUARD GOLD Certification for Cabinetry.](#)

Note: [“No added formaldehyde” \(NAF\)](#) or [“Ultra-low emitting formaldehyde” \(ULEF\)](#) products that are specifically exempted from the California ATCM to Reduce Formaldehyde Emissions from Composite Wood Products are compliant with Indoor airPLUS.

The [How to Find Indoor airPLUS Compliant Low Emission Products](#) document provides guidance on identifying compliant products including industry databases and examples of product labeling.

More Info.

Access to some references may require purchase from the publisher. While we continually update our database, links may have changed since posting. Please contact our webmaster if you find broken links.

Case Studies

None Available

References and Resources*

1. [An Update on Formaldehyde](#)
Author(s): U.S. Consumer Product Safety Commission
Organization(s): U.S. Consumer Product Safety Commission
Publication Date: January, 2013
Updated detailed information about Formaldehyde.
2. [DOE Zero Energy Ready Home National Program Requirements](#)
Author(s): DOE
Organization(s): DOE
Publication Date: August, 2015
Standard requirements for DOE's Zero Energy Ready Home national program certification.
3. [Formaldehyde](#)
Author(s): EPA
Organization(s): EPA
Publication Date: October, 2014
Detailed information about Formaldehyde including health effects and strategies to reduce exposure.
4. [How to Find Indoor airPLUS Compliant Low Emission Products](#)
Author(s): EPA
Organization(s): EPA
Publication Date: October, 2015
Companion document to the Indoor airPLUS Construction Specifications, providing guidance on identifying compliant products, including industry databases and examples of product labeling.
5. [Indoor airPLUS Construction Specifications Version 1 \(Rev. 03\)](#)
Author(s): EPA
Organization(s): EPA
Publication Date: October, 2015
Document outlining specifications that were developed by the U.S. Environmental Protection Agency (EPA) to recognize new homes equipped with a comprehensive set of indoor air quality (IAQ) features.
6. [The Role of Laminates and Coating as Emissions Barriers in Composite Wood Panels](#)
Author(s): Composite Panel Association
Organization(s): Composite Panel Association
Publication Date: January, 2001
Document addressing multiple surfacing options for composite wood panels with regards to their abilities to act as emission barriers.
7. [VOC Emission Barrier Effects of Laminates, Overlays and Coatings for Particleboard, Medium Density Fiberboard \(MDF\) and Hardboard](#)
Author(s): Composite Panel Association
Organization(s): Composite Panel Association
Publication Date: January, 2003
Technical bulletin addressing surfacing options in regards to composite wood panels and their emission barrier capabilities.
- 8.

Voluntary Product Standard PS 2-04, Performance Standard for Wood-Based Structural-Use Panels

Author(s): National Institute of Standards and Technology

Organization(s): National Institute of Standards and Technology

Publication Date: December, 2004

Standards for requirements, performance, construction, workmanship and others for structural-use panels.

9. **Voluntary Product Standard, PS 1-09, Structural Plywood**

Author(s): American Plywood Association

Organization(s): American Plywood Association

Publication Date: May, 2010

Standard that provides expanded and updated requirements for producing, marketing, and specifying plywood for construction and industrial uses.

*Publication dates are shown for formal documents. Dates are not shown for non-dated media. Access dates for referenced, non-dated media, such as web sites, are shown in the measure guide text.

Contributors to this Guide

None Available