

# Certified Low/No Emission Interior Paints and Finishes

Last Updated: 06/16/2017

## Scope



In living spaces, utilize third-party certified low-emission paints and finishes that are designed to reduce human exposure indoors to individual VOCs. At least 90 percent of the interior surface area covered by site-applied paints and coatings shall use low-VOC or no-VOC products certified by one of the following third-party standards or certifications:

- [GREENGUARD or GREENGUARD GOLD Certification for Paints and Coatings](#), OR
- [Scientific Certification Systems \(SCS\) Standard EC-10.2-2007, Indoor Advantage Gold](#), OR
- [A third-party low-emitting product list based on CA Section 01350 \(CDPH Standard Method V1.1-2010\)](#), OR
- [Green Seal Standard GS-11](#), OR
- [Green Wise and Green Wise Gold products](#), OR
- [Master Painters Institute \(MPI\) Green Performance Standards X-Green, GPS-1 or GPS-2](#).



### [How to Find Indoor airPLUS Compliant Low Emission Products](#)

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 interior paints and finishes. Utilize this guide when outlining detailed product certifications to be included in the project specifications and/or subcontractor bid package.

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.

## Description

Interior paints and finishes may contain Volatile Organic Compounds (VOCs). VOCs include a variety of chemicals, some of which may have short- and long-term adverse health effects. Concentrations of many VOCs are consistently higher indoors (up to ten times higher) than outdoors. VOCs are emitted by a wide array of products. Examples include: paints and lacquers, paint strippers, cleaning supplies, pesticides, building materials and furnishings, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions.

VOCs can cause eye, nose, and throat irritation; headaches; loss of coordination and nausea; and damage to the liver, kidneys, and central nervous system. Some organics can cause cancer in animals; some are suspected or known to cause cancer in humans. Key signs or symptoms associated with exposure to VOCs include conjunctival irritation, nose and throat discomfort, headache, allergic skin reaction, dyspnea, declines in serum cholinesterase levels, nausea, emesis, epistaxis, fatigue, and dizziness.



### [How to Find Indoor airPLUS Compliant Low Emission Products](#)

When found in building materials, VOCs tend to be emitted at higher levels when materials are new, with emissions lessening over time. This can mean that VOC emissions in a home could be particularly high during construction and upon first occupancy. To protect indoor air quality for both occupants and contractor staff, the best approach is to limit use of VOC-containing materials by specifying and purchasing low- or no-VOC products. Paints, sealants, coatings and adhesives are building products that traditionally contain VOCs. However, there is an increasing supply of low- and no-VOC alternatives, and often manufacturers will supply both an original formula as well as a low-VOC formula. Although some contractors may express concern as to the adhesive quality of low- or no-VOC products, this concern is not necessarily well-founded, and working with the product supplier can help to ensure an equivalent low-emission product is selected.

Using certified products lowers occupants' risk of exposure to high levels of VOCs from construction materials. These Indoor airPLUS specifications can be implemented by requiring documentation of material certification for each material submittal package from sub-contractors. Any submittal requirements, such as manufacturer documentation of product certifications, should be clearly outlined in the project specifications and/or subcontractor bid package. Information for each third party certification and emissions standard required by Indoor airPLUS can be found in the [How to Find Indoor airPLUS Compliant Low-Emission Products](#) document.

## Ensuring Success

To meet Indoor airPLUS specifications, include product certification requirements for interior paints and finishes in the project specifications and/or bid package. In general, the most progressive low-emission paint certifications are based on [California 01350, the Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources using Environmental Chamber](#). This standard, updated in February 2010, established emissions requirements to ensure the certifications follow a standard practice for product testing and VOC calculations. However, not all third party certifications compliant with Indoor airPLUS are based on California 01350. While these certifications do not all have the exact same level of stringency or testing protocols, they currently provide a variety of reliable and market-available low-emission paints and finishes.

Even when selecting certified paints, coatings, cabinets, carpet and composite wood, these products may not be 100% emissions-free. Therefore, to protect construction teams and future occupants, ventilate the home during and shortly after installing products that are known sources of contaminants (e.g., cabinets, carpet padding, paint, and other finishes) and during the time between construction completion and occupancy. See Indoor airPLUS Item 7.2 for more details on ventilation strategy to dilute pollutants.

## 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. Code language is excerpted and summarized below. For exact code language, refer to the applicable code, which 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:

### 6.2: Interior Paints and Finishes

- At least 90 percent of the interior surface area covered by site-applied paints and coatings shall use low-VOC or no-VOC products certified by one of the following third-party standards or certifications:
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  - [Scientific Certification Systems \(SCS\) Standard EC-10.2-2007, Indoor Advantage Gold](#), OR
  - [A third-party low-emitting product list based on CA Section 01350 \(CDPH Standard Method V1.1-2010\)](#), OR
  - [Green Seal Standard GS-11](#), OR
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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. [DOE Zero Energy Ready Home National Program Requirements](#)

**Author(s):** Department of Energy

**Organization(s):** DOE

**Publication Date:** April, 2017

*Standard requirements for DOE's Zero Energy Ready Home national program certification.*

2. [How to Find Indoor airPLUS Compliant Low Emission Products](#)

**Author(s):** U.S. Environmental Protection Agency

**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.*

3. [Indoor airPLUS Construction Specifications Version 1 \(Rev. 03\)](#)

**Author(s):** U.S. Environmental Protection Agency

**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.*

4. [Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers Version 1.1 \(California 01350\)](#)

**Author(s):** Division of Environmental and Occupational Disease Control

**Organization(s):** California Department of Public Health (CDHP)

**Publication Date:** February, 2010

*Detailed requirements for testing, exposure modeling, and allowable limits for modeled indoor air concentrations.*

\*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

The following authors and organizations contributed to the content in this Guide.

U.S. Environmental Protection Agency, Indoor airPlus program and PNNL.