

WALL SYSTEMS

[Between us, ideas become reality.]®

Formaldehyde Emissions & Interior Spaces-What You Need to Know About Choosing Wood Wall Systems

Increasing attention is being given to green buildings and sustainable design, especially as it pertains to the quality of the indoor environment and the concentration of formaldehyde within it.

What is Formaldehyde?

Formaldehyde is a colorless gas with a pungent odor that occurs naturally in the environment. It is also an important industrial chemical widely used in the manufacture of other chemicals, building materials and household products. It is also a volatile organic compound (VOC), meaning that it vaporizes and becomes a gas at normal room temperatures. As a result, products containing formaldehyde can release it as a gas.

Why Is It a Concern?

Formaldehyde is normally present at low levels in outdoor air. However, interior spaces containing products that release formaldehyde can have levels greater than that of outdoor air. And, as formaldehyde levels increase with the installation of multiple interior finishes, possible illness or discomfort is more likely to occur.

The effect of formaldehyde on people varies widely from person to person. Depending upon an individual's sensitivity, exposure to low to moderate levels of formaldehyde can cause temporary burning or itching of the eyes or nose, stuffy nose, sore or burning throat, or headaches. Breathing high levels of formaldehyde can cause chest tightness, coughing, wheezing or a worsening of asthma symptoms.

What Affects Formaldehyde Levels?

The formaldehyde level in indoor air depends primarily on four factors:

- 1) *The source of the formaldehyde* – Building materials containing formaldehyde tend to release more of the gas when the product is new. As the product ages, formaldehyde release usually decreases.
- 2) *Air exchange rate* – Decreasing the flow of outdoor air to the inside of a building increases the formaldehyde level of the indoor air.
- 3) *Temperature* – As temperature rises, more formaldehyde is emitted.
- 4) *Humidity* – As humidity rises, more formaldehyde is released.
- 5) *Loading Factor* – If the quantity of formaldehyde emitting material is reduced, the overall concentration of formaldehyde is reduced. Loading factor is the ratio of building material surface area to the building volume.



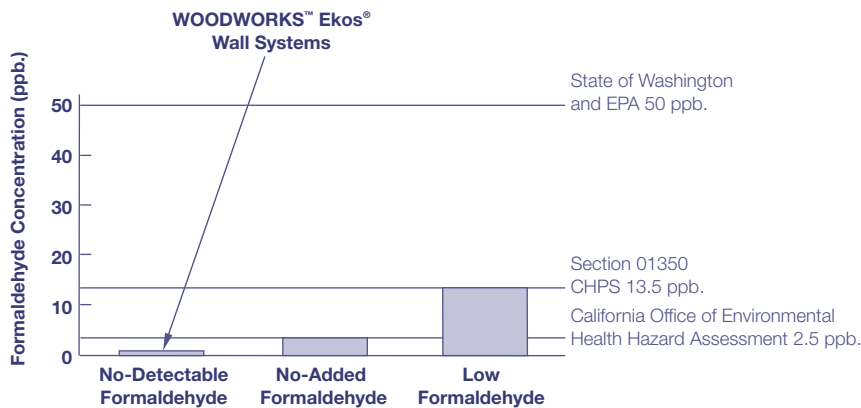
Choosing Wood Wall Systems

When selecting wall systems for a building or specific space, it's important to know that, unlike most composite wood or traditional millwork products used in interiors, Armstrong WoodWorks™ Ekos® Wall Systems satisfy stringent indoor environmental quality requirements for formaldehyde and VOC emissions.

For installers, WoodWorks Ekos Wall Systems meet the U.S. Department of Labor Occupational Safety & Health Administration (OSHA) requirements for formaldehyde exposure and content for workers handling these materials.

Guidelines for Formaldehyde Concentrations

The chart below shows the various guidelines for formaldehyde concentrations in indoor air, and how WoodWorks Ekos Wall Panels meet and exceed these guidelines. These concentrations are measured in ppb (parts per billion).



NOTE: Low and no-added formaldehyde levels are guidelines as shown above. Actual levels depend on a number of factors.

No-Added Formaldehyde Walls

By utilizing adhesives and coatings with no-added urea-formaldehyde and a mineral fiber substrate with no-added formaldehyde, WoodWorks Ekos Wall Systems are a sustainable alternative to many real wood walls on the market today. The high 78% recycled content of each panel can also help contribute to LEED® Material and Resources Credits 4.1 and 4.2. Plus, WoodWorks Ekos can be used towards LEED Material and Resources Credit 6.0 Rapidly Renewable. For details, see the Armstrong WoodWorks Ekos Wall Systems LEED Credit Summary.

No-Detectable Formaldehyde Walls

Armstrong WoodWorks Ekos Wall Systems not only pass the California Section 01350 CHPS list standards, third-party emissions tests have not detected any formaldehyde being emitted from the product.



Green Genie™ – Search, evaluate and document which Armstrong Ceiling or Wall product meets the environmental criteria needed for your project at armstrong.com/greengenie

Contact TechLineSM for further information –
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