

## Limiting VOCs for cleaner air

Tim Weller AHC/CDC, FDAI, Allegion manager of codes, standards and sustainability

On average, Americans spend 90 percent of their days indoors. You might spend your days in the office of an architectural firm. Doctors are in hospitals for 12-hour shifts. Kids are at school. Others pass their days working in warehouses. Then we return home, concluding our days in the comfort of our houses and apartments.

With so many people bound to the indoors, maintaining healthy indoor air quality is essential. Breathing in harmful substances can have health consequences. In fact, the Environmental Protection Agency (EPA) states that concentrations of volatile organic compounds (VOCs) may be up to 10 times higher indoors than outdoors. How can you play a part in maintaining clearer air? It's important to pay attention to certifications when specifying doors since commercial building products can be culprits in emitting VOCs.

### What are VOCs

Volatile organic compounds are one of the main contributors to indoor air pollution. [Emitted as gases from certain solids or liquids, VOCs include a variety of chemicals, some of which may present health risks.](#)

VOCs, which vaporize and can enter the body through normal breathing, can come from many household sources, like paints, cleaning products and aerosol sprays. They're also released by building materials such as carpet, linoleum, composite wood products and insulation, to name a few.

Research has found that VOCs can harm health and result in symptoms that range from headaches and dizziness to more serious issues like liver disease and cancer. [According to the EPA website](#), the ability of organic chemicals to cause health effects varies, depending on the level of exposure and length of time exposed, among other factors.

The California Building Standards Commission (CBSC) has taken a stand against these invisible-yet-deadly threats with the CALGreen code.

### What is CALGreen?

In 2007, California became the first state to develop mandatory green building requirements in its building code. The CBSC published the [California Green Building Standards Code](#), Title 24, Part 11—also known as CALGreen Code or CALGreen. It was adopted by CBSC in January 2010.

A first-of-its-kind, its purpose is to “[improve public health, safety and general welfare by enhancing the design and construction of buildings. The goal is for positive environmental impact and encouraging sustainable construction practices.](#)”

We've seen these requirements in specifications before, but CALGreen is code-driven. Where authorities having jurisdiction (AHJs) accept these new standards, new buildings, both residential and commercial, must meet the guidelines outlined in the code.

Since its introduction, the CALGreen Code has aided California's commitment to reduce greenhouse gas emissions and promote building health. California is often an early advocate for health and wellbeing, and it's likely we could see similar code changes on a national level down the road.

The [2019 Green Building Standards Code](#) is the most current version. It went into effect on January 1, 2020.

### How do products meet clean air standards?

In 2004, the California Department of Public Health (CDPH) published the first [health-based standard for testing building materials for chemical emissions](#). These

CDPH efforts support those of the California Air Resource Board's formaldehyde regulation, which limits formaldehyde emissions from composite wood products.

Over the years, this standard has evolved and been updated to become the gold standard for testing of products for VOCs. A product is placed inside an environmental chamber and the outgassing of the chemicals are measured over a period of time. If the emissions fall below a certain level, the products are eligible to receive a certification from a nationally recognized test lab, such as UL or Intertek.

### Specifying green solutions starts with the door

As stated, a number of products can emit VOCs, including steel doors. While metals are typically not a threat, it's important to consider the components inside the door, like cores and adhesives. Steelcraft® and Republic® products use honeycomb as their main core followed by polystyrene. Until last year, the honeycomb material was impregnated with a resin that contained formaldehyde. [Formaldehyde, a VOC, is produced industrially worldwide for use in the manufacturing of resins, as a disinfectant and fixative, or as a preservative in consumer products.](#)

While the levels were low, Allegion changed all standard honeycomb cores to non-impregnated honeycomb material. The products maintain their critical strength and durability with the new materials. After eliminating the use of formaldehyde, Steelcraft and Republic doors and frame components were verified through Intertek's independent test facility. In 2020, the company attained [Clear Air Gold Quality certificates from Intertek](#) for both product lines.

Intertek's Clean Air program independently tests and certifies products to regulated sustainability initiatives. Both Steelcraft and Republic received Clean Air Gold certification, which states conformance to: California Department of Public Health (CDPH) Standard Method v1.2 01350 (2017); CHPS; Green Globes; ASHRE 189.1; and the IgCC. It's also in conformance to low-emitting materials for WELL and LEED.

[The certificates can be found here.](#)

To learn more about Allegion's sustainability efforts, or to speak with one of Allegion's hardware consultants, [contact us today.](#)

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Allegion has a team of more than 150 specification writers located around the world who would be happy to assist on your next project. [Contact an Allegion specification writer](#), or check out the [iDig Hardware blog](#) for information and updates on door hardware codes.

## About Allegion

Allegion (NYSE: ALLE) is a global pioneer in seamless access, with leading brands like CISA®, Interflex®, LCN®, Schlage®, SimonsVoss® and Von Duprin®. Focusing on security around the door and adjacent areas, Allegion secures people and assets with a range of solutions for homes, businesses, schools and institutions. Allegion had \$2.9 billion in revenue in 2019 and sells products in almost 130 countries. For more, visit [www.allegion.com](http://www.allegion.com)

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