

Low Volatile Organic Compound (VOC) Building Products

This fact sheet describes Fort Collins building-code changes effective January 12, 2019, concerning Indoor Environmental Quality (IEQ). The requirements apply to all new residential and non-residential construction projects for which a building permit is required.

Code reference

International Building Code (IBC) Sec. 3603.2: applies to commercial and all multifamily housing.

International Residential Code (IRC) Sec. R329.1: applies to Single-family houses, duplexes, townhomes.

“Construction materials, floor coverings and site-applied finishes, including sealants and adhesives, resilient flooring, carpeting and pad, site-applied paints, stains and varnishes, structural wood panels, hardwood veneer plywood, particle board and fiber board building products, and insulation (does not include cabinets or wall paper) shall meet specified volatile organic compound (VOC) emissions limits in accordance with California Department of Public Health (CDPH) 01350; GREENGUARD Environmental Institute GGPS.001 standard for building materials and finishes; or Green Seal® standards. Documentation demonstrating compliance shall be required with delivery of such materials and shall be available for inspection.”

Exception: Alterations to existing buildings.

What are low-VOC materials and why are they important?

Volatile organic compounds (VOCs) refer to chemicals that readily vaporize (become *volatile*) at typical indoor conditions. Common VOCs include formaldehyde, benzene, toluene, flammable alcohols, household cleaning solvents, lacquers, gasoline and other liquid combustion fuels.

VOCs can affect human health or have adverse effects on the environment. Some are known carcinogens. Indoor VOC sources include many building materials – such as carpet, composite wood products, insulation, paints, adhesives – as well as furniture, cleaning products, copy and fax machines, and tobacco smoke. U.S. EPA studies have found that indoor levels of common organic pollutants are several times higher than outdoor levels.

Do low-VOC products perform as well as conventional products?

Many available low-VOC products reduce “off-gassing” of hazardous and potentially flammable vapor emissions. Local suppliers say performance of approved low-VOC building materials has steadily improved, matching or surpassing hazardous VOC products, with little or no price premium.

How do I comply with the code requirement?

The 2018 Fort Collins building codes require products that are certified as “low-VOC or meet recognized standards limiting VOC emissions as verified by an independent testing agency. Acceptable forms of documentation include copies of verified test report(s) from an approved independent testing agency (as determined by the City of Fort Collins Building Services).

Where can I find compliant VOC building products?

Compliant low-VOC building products are widely available locally. The following contact list will help you locate the appropriate certification or standards organization for categories of building products.



GREENGUARD Environmental Institute’s (GEI) Children and Schools Certification Program – Standard GGPS.001

GEI certifies products and materials for low chemical emissions and is a free resource for choosing healthier products and materials for indoor environments. To receive its Indoor Air Quality certification, products must meet GEI’s *GGPS.001. GREENGUARD IAQ Standard for Building Materials, Finishes and Furnishings*. Certified products can be found online at: www.greenguard.org/en/QuickSearch.aspx



Green Seal®

Green Seal® develops life cycle-based sustainability standards for products, services and companies and offers third-party certification for those that meet the criteria in the standards. 1993 Standards relevant to the code requirement are GS-11 (Paints and Coatings) and GS-47 (Stains and Finishes). Certified products can be found online at: www.greenseal.org/certified-products-services



Carpet and Rug Institute (CRI) – Green Label

CRI is a nonprofit trade association representing carpet manufacturers as well as their suppliers and service providers. CRI initially developed the Green Label program to help commercial specifiers locate carpet, padding and adhesives with low VOC emissions. More recently, the *Green Label Plus* programs sets even higher standards. For more information, visit www.carpet-rug.org.



California Department of Public Health (CDPH) – Section 01350

CDPH testing protocol: *“Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers.”* This is typically referenced as *“CDPH 01350.”*

Additionally, materials meeting Collaborative for High Performance Schools (CHPS) low emitting standard. Products meeting CHPS standards can be found at:

<https://zerodocs.com/product-library>



SCS Global Services - Indoor Advantage and Indoor Advantage Gold standard

Certification of interior building materials such as Architectural coatings, paints, sealants, adhesives, wall coverings, floor coverings, ceiling tiles and wall paneling.

Certified Green Products directory found here: <https://www.scsglobalservices.com/certified-green-products-guide>



2018 International Green Construction Code™

“Section 806” published by the International Code Council® (ICC), is also a detailed resource for compliant maximum VOC emissions. <https://www.iccsafe.org/products-and-services/i-codes/2018-i-codes/igcc/>



USGBC LEED IEQc4.1 and LEED IEQc4.3

Products used inside the building that meet the VOC Limits outlined as requirements for LEED requirements. IEQc4.1 information on Adhesives and Sealants can be found at:

<https://www.usgbc.org/credits/regeq4r0>

IEQc4.3 information on flooring can be found at: <https://www.usgbc.org/credits/new-construction-commercial-interiors-core-shell-retail-ci/v2009/eqc43>



ANSI A138.1 Green Squared Certification

Certification for ceramic tile, glass tile and tile installation materials that conform to a performance standard that includes particulate emissions.

Certified Green Products directory found here: <https://www.scsglobalservices.com/certified-green-products-guide>