

# GREENGUARD Certification™

The GREENGUARD Environmental Institute™ is an independent, non-profit organization that oversees the GREENGUARD Certification Program™, including the establishment of acceptable standards for indoor products and testing protocols. Its goal is to improve public health and quality of life by helping manufacturers build better and safer products.

The GREENGUARD Certification™ and labeling program for interior products and building materials is the only testing program worldwide for low-emitting products. The GREENGUARD Environmental Institute oversees the certification process, including all audits and qualifying criteria for each product category.

## What is the GREENGUARD Certification Program™ for indoor products?

GREENGUARD Certification Program is an indoor air quality resource, which identifies specific products that have been tested and continue to be tested to ensure that their chemical and particle emissions meet acceptable indoor air quality pollutant guidelines and standards. This Certification program is a valuable tool for architects, designers, product specifiers, and purchasing organizations that want to locate, specify, and purchase low-emitting products for indoor environments. The GREENGUARD Certification Program is voluntary and available to all manufacturers and their suppliers.

## What product categories are included?

The GREENGUARD Certification Program includes all construction materials, furnishings, furniture, office equipment, cleaning and maintenance materials, and processes that are used in interior environments. General product categories include:

Adhesives and Sealants	Appliances
Architectural Paints and Coatings	Ceiling Systems
Consumer Products	General Construction Materials
Hard Surface Flooring	Insulations
Office Equipment	Office Furniture
Textiles	Wallcoverings

## What Owens Corning products are included?

### United States

PINK fiber glass batts and rolls  
All blowing wools  
Foamular® extruded foam  
QuietZone® batts and acoustic floor mat  
SelectSound® black acoustic blanket  
  
FoamSealR™ ridged sill gasket

### Canada

PINK fiber glass batts  
All blowing wools  
Extruded foam  
Acoustic floor mat  
SelectSound® black acoustic  
Blanket  
  
FoamSealR™ ridged sill gasket

## How are products tested?

Products are tested for emissions of formaldehyde, volatile organic compounds (VOCs), respirable particles, ozone, and other pollutants using stringent environmental chamber protocols. Testing takes place in dynamic environmental chambers designed to simulate product use in typical indoor environments. Environmental chamber operation and testing protocols follow scientific principles established by the U.S. Environmental Protection Agency (USEPA) and its Environmental Technology Verification Program (ETV), the American Society of Testing Materials (ASTM), the State of Washington (SOW), Germany's Federal Environment Agency, and other applicable government or industry programs.

## What type of test data are obtained?

All test data are obtained on newly manufactured products delivered to the test lab within a few days of manufacture. Products are packaged, sealed, and shipped to an accredited GREENGUARD environmental chamber laboratory where testing begins within five days of receipt. Products are tested in dynamic environmental chambers for specific pollutants over a period of one week. Emission rates are measured and are then used to determine exposure concentrations in microgram per cubic meter ( $\mu\text{g}/\text{m}^3$ ) or parts-per-million (ppm). For most products, data are obtained for formaldehyde and other aldehydes, volatile organic compounds, and respirable particles. Additional gases, such as ozone, carbon monoxide, and nitrogen oxide are monitored for equipment and processes.

## How is the product compliance determined?

Exposure concentrations are compared against specific pollutant standards for each product type. All construction materials, furnishings, and furniture must meet these standard levels within a five-day period.

All products are tested in dynamic environmental chambers following ASTM standards D-5116-97 and D- 6670-01. Air concentrations are based on the product being in a room 32 m<sup>3</sup> in volume with an outdoor air concentration of 0.8 air changes per hour (ACH). Maximum allowable emission levels are those required by the state of Washington's indoor air quality program for new construction, the US Environmental Protection Agency's procurement specifications, OSHA's Formaldehyde Rule, the recommendations from the World Health Organization and 1/10 of all regulated chemical exposure limits established by OSHA. When multiple emission values are recommended, the lesser or more stringent is used as the acceptable emission value for GREENGUARD Certification.

Measures include VOCs, respirable particles, formaldehyde, total aldehydes, ozone, and carbon monoxide. Specific chemicals, which are known irritants, odorants, or carcinogens must meet certain criteria for some products.

### Insulation Requirements

Total VOCs	0.50 mg/m <sup>3</sup>
Formaldehyde	0.05 ppm
Total aldehydes	0.1 ppm
Respirable particles (for HVAC ductwork)	0.05 mg/m <sup>3</sup>

In general, all products found to meet the GREENGUARD Certification standards will contribute very low levels of pollutants to the indoor environment. These standards are subject to change in the future to accommodate changes in international, federal, and state regulations.

### How does GREENGUARD Certification address competitive issues about formaldehyde and indoor air quality?

GREENGUARD Certification shows that OC products meet GREENGUARD'S strict standards for formaldehyde and VOC emissions, and can be used with confidence in the green building environment. It is a third party confirmation that verifies what Owens Corning has been communicating about its products:

- The trace amounts of formaldehyde in traditional fiber glass insulation do not present indoor air quality issues. (For more information, please refer to "Just the Facts", Pub. # 57470)

GREENGUARD Certification is the only scientifically based testing program for low-emitting products. Owens Corning building insulation products have been tested and certified.

## How do I receive more specific indoor air quality performance data on the product?

A manufacturer's representative and contact information are listed with the product in the GREENGUARD Product Guide™. This person may be contacted for additional information. He/she will also have a product compliance sheet showing that the product meets the specific GREENGUARD criteria and will be glad to share it with you.

## How will I know when new products are listed?

The GREENGUARD Product Guide will be updated on the Web page, as new product listings become available. Announcements of additions will be made to the press and at [www.greenguard.org](http://www.greenguard.org).

## How often does a manufacturer need to re-qualify a product?

The GREENGUARD Certification Program is an on-going process with annual re-certification and quarterly monitoring tests to assure that each product with the GREENGUARD Indoor Air Quality Certified™ mark meets the emission standards of the program. This includes changes to GREENGUARD Certification emissions standards to accommodate updates in international, federal, and state regulations.

## What can you do?

The best way to reduce indoor air pollution is to control the sources. The chemical emissions from many sources are not controlled or are only partially controlled by federal, state, or local law. The U.S. Environmental Protection Agency encourages voluntary standards, such as GREENGUARD, as an alternative to federal, state, or local regulations. GREENGUARD can help you find low-emitting interior products and building materials.

Other helpful hints to reduce indoor air pollution include: Don't smoke indoors; air out the building when new materials are brought in; apply wet products such as paints and adhesives before the installation of dry products such as carpet and ceiling tile; use exhaust fans when cooking; avoid use of fragranced materials, deodorizers, and aerosol sprays; store construction chemicals outside of the building.



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