

Testing and certification for the **BUILT ENVIRONMENT**

**FIRE SAFETY AND
LOW CHEMICAL EMISSIONS**

The UL logo is a large white circle containing the letters 'U' and 'L' in a bold, white, sans-serif font. It is positioned in the lower right quadrant of the image, overlapping the cityscape.

**U
L**

UL (Underwriters Laboratories) is a global independent safety science company with more than a century of expertise in standards development, testing and certification. With groundbreaking innovations in safety, sustainability, renewable energy and nano technology, UL is always dedicated to promoting safe products, as well as people-friendly living and working environments. Established in the U.S. in 1894, UL now operates internationally, offering a comprehensive range of services to help manufacturers gain the compliance credentials they need to compete on the global marketplace.

Comprehensive **CERTIFICATION SOLUTIONS**

As a pioneer in fire safety for nearly 120 years, today UL offers the highest level of regulatory acceptance, market recognition, expertise, and service in the building materials industry. To help protect lives and property, UL applies modern test methods, such as state-of-the-art, large-scale fire testing and research facilities, serving all key industry segments of the built environment. UL provides in-depth analysis of test results by working closely with regulatory authorities, manufacturers, insurers, retailers and other stakeholders in the realm of fire safety.

UL now also helps meeting safety needs with regards to chemical emissions in the built environment – whether due to impending legislation or growing consumer demand for greater assurance that their homes, schools and workplaces meet standards for product emissions. UL performs chemical, analytical and physical tests to all major national and international standards.



Fire safety, performance and quality conformity

UL provides both single tests and combined testing programmes to support manufacturers in all product development phases from research and prototyping to reliability and verification testing. In many cases, the testing for different standards can be combined, saving considerable time, resources, and costs. These testing and certification services run across the built environment, including:

- Passive fire systems: steelwork protection to cellulosic and hydrocarbon standards, fire stopping, fire and smoke doors, safes, glass and gypsum partitions, building hardware
- Active fire systems: smoke and fire detectors, fire alarms, sprinkler systems, water-mist systems, pumps, components
- Security systems: digital video recognition, access control
- Low-emission / low-pollutant products: wall and floor coverings, textiles, furniture, HPL, foams and adhesives for emissions control in the built environment.



Emissions control in the built environment

Specifically in the field of chemical emissions, UL is unique in being able to offer both single tests or ones combined with testing for fire safety and performance. Via its testing facilities UL provides manufacturers worldwide with the highest quality chemical emissions testing of products and components for the built environment. For instance, UL is an accredited European testing, inspection and certification body for CE marking of floor coverings (EN 14041, EN 14342). In addition, UL also offers GREENGUARD, certification for low-emitting products that contribute minimally to indoor air pollution, as well as services in compliance with numerous other testing and certification programmes.

Global network for quicker time-to-market

UL provides unparalleled access to a worldwide network of technical experts, state-of-the-art laboratories, regulatory authorities, industry leaders and certification bodies with multiple accreditations. As a result, UL can considerably reduce the time it takes for a product to reach global markets, whether in a single investigation or through bundled services that optimise project turnaround time, minimise administration, and reduce project costs.

Marks that matter abroad

UL offers comprehensive testing and certification services for most major markets. UL's services for the built environment are represented around the world at locations offering expert advising, technical assistance, and testing capabilities for fire safety and chemical emissions.



The map shows UL's global engineering presence for the built environment, as well as some of the key local validation and certification marks we are accredited to issue.



FIRE SAFETY

testing and certification

As a leading global product safety authority, UL tests and certifies to all of the major fire safety standards worldwide, including the key European standards. Here is an overview some of the most important fire safety marks covered by UL. For further information, please see ul.com/buildingmaterials





UL Mark



The UL Mark is the most widely recognised and accepted certification of a product's compliance with U.S. and Canadian safety requirements. For consumers, installers/integrators, as well as code and regulatory authorities, the UL Mark is North America's most valued product safety symbol. Any end product with UL Listing reflects compliance to the corresponding UL safety requirements. The UL Mark also has value outside of North America, and is increasingly being specified in the Middle East, the Far East and Latin America.

CE Mark



The CE Mark is for the Construction Products Regulation (CPR), which applies to European products incorporated into permanent structures, including both buildings and engineering works. UL offers testing to applicable European Standards (ENs) and European Technical Approval Guidelines (ETAGs) along with certification services to demonstrate CE compliance. UL also assists product manufacturers in meeting CPR requirements for a Factory Production Control (FPC) system, which ensures on-going adherence to technical specifications. According to the CPR, products and/or systems with fire characteristics must be tested and approved to applicable published European standards – as well as carry a CE Mark – before they can be promoted and sold in Europe.

UL EU Mark



The UL-EU Mark is a recent addition to the family of UL Marks, designed to assist manufacturers in gaining European market access. It is based on applicable EN standards and issued exclusively by UL. The UL-EU mark also supports global manufacturers in reducing their time-to-market through combined testing and certification efforts, based on working with one team while also benefitting from the associated cost savings.

C-UL-US-EU Mark



The combined C-UL-US-EU Mark provides a means of demonstrating that a product is covered by appropriate certifications for the critical markets of Europe and North America. This is particularly important as the regions in question require a variety of codes for building construction. Manufacturers need to submit only one product and work with a single team of UL testing experts to gain a Mark that opens the door to transcontinental approvals. Using UL for multiple certification needs reduces the number of inspections at a manufacturing site, resulting in reduced time, effort and costs for managing these visits.

Applicable Standards for Fire Safety Testing and Certification



Passive Systems			
		Certification	Testing
Penetration Seals	UL 1479/ASTM E814	ETAG 026-1, ETAG026-2	EN 1366-3
Linear Joint and Gap Seals	UL 2079/ASTM E1966	ETAG 026-1, ETAG026-3	EN 1366-4
Internal Partition Kits	UL 263	ETAG 003	EN 1364-1
'Fire' Glass	UL 9	Various EN product standards, depending on product construction	EN 1364-1
Reactive Coatings, Renderings, Fire Protective Boards, Slabs and Mats	UL 263, UL 1709	ETAG 018-1, ETAG 018-2, ETAG 018-3, ETAG 018-4	EN 13381-4, prEN 13381-6, prEN 13381-8, prEN 13381-9
Fire/Smoke Doors and Windows	UL 10B, UL 10C, UL 1784	EN 16034 (when available)	EN 1634-1, EN 1634-3
Fire/Smoke Door Seals	As part of UL 10B, UL 10C, UL 1784	Via CUAP/EAD	As part of a test to EN 1634-1 and/or EN 1634-3
Various building hardware items	ANSI A156.1, UL 228, UL 305, ANSI A156.3, UL 10B, UL 10C, UL 864, UL 228, UL 768, UL 14B, UL 14C	EN 1935, EN 1154, EN 1125, EN 179, EN 12209, EN 12210, EN 1158, EN 1155	EN 1634-1, EN 1634-2
Exterior Wall Systems (sandwich panel type)	UL 263, NFPA 285	EN 14509	EN 1364-1
Fire/Smoke Curtains	UL 10D, UL 1784	EN 16034 (when available), EN 12101-1	EN 1364-1, EN 1634-1 & EN 1634-3
Fire/Smoke Dampers	UL 555, UL 555S	EN 12101-8, EN 15650	EN 1366-2, EN 1366-10
Ducts	UL 181, ISO 6944	EN 15871 (Fire), EN 12101-7 (Smoke)	EN 1366-1, EN 1366-5, EN 1366-8, EN 1366-9
Safes	UL 687, UL 72	EN 14470-1 & 2	EN 15659, EN 1047-1
Gypsum Products			Various EN product standards, depending on product construction
Fibre Products	UL 723 (ASTM E84)	Various EN product standards, depending on product construction	
Roofing			
Reaction to Fire: expanded foams, textiles, flooring (incl. compounds), wood based panels	UL 723 (ASTM E84)		EN 13501-1

Active Systems

(Alarm and Detection)

Control and Indicating Equipment	UL 864	EN 54-2
Sounders	UL 464	EN 54-3
Power Supply Equipment	UL 864 (Integrated in CIE) UL 1481 (Non Integrated)	EN 54-4
Heat Detectors	UL 521	EN 54-5
Smoke Detectors	UL 268	EN 54-7
Flame Detectors	UL 268	EN 54-10
Manual Call Points	UL 38	EN 54-11
Line Detectors	UL 268	EN 54-12
Fire System Compatibility	UL 864	EN 54-13
Voice Alarm CIE	UL 864 and UL 1711	EN 54-16
Short Circuit Isolators	UL 864	EN 54-17
Input/Output Devices	UL 864	EN 54-18
Aspirating Smoke Detectors	UL 268	EN 54-20
Alarm Transmission Equipment	UL 864	EN 54-21
Visual Alarm Devices	UL 1638	EN54-23
Components using Radio Links	UL Standard*	EN54-25
Smoke Alarms	UL 217	EN 14604
Control and Delay Devices	UL 864	EN 12094-1

* No equivalent UL standard for Fire systems – requirements for radio devices are within the UL product standards.

The table above shows the standards necessary to evaluate the respective products and systems in order to provide a Certification Mark. This list is intended to provide guidance on the most common applications and requirements for stakeholders, and is not to be used as a definitive list, as products and specifications can vary widely.

For more information, please contact your local sales team or visit ul.com



Preliminary Investigation

We recommend that manufacturers start with a preliminary investigation to evaluate the product and determine the level of compliance to both UL and EU or other local regulatory requirements. This approach avoids later modifications which may lead to delays in time-to-market. During the preliminary investigation, UL evaluates whether a product's construction, design, and materials comply with the relevant standards. The result of the preliminary investigation is a detailed report in letter format, listing noncompliant materials and structures (if applicable). This allows the manufacturer sufficient time to rectify any noncompliance issues, and means that when it comes to the actual certification process, the pre-assessment phase will no longer be required. As part of the Preliminary Investigation, UL can also provide:

- Gap analysis
- Material suitability
- Design review for certification

Testing

Once a manufacturer is ready to begin the certification process and submits the relevant documentation (product specifications, drawings, etc.), UL engineers and lab technicians conduct a number of tests and evaluations in accordance with the applicable standard(s). This process is followed by an initial production inspection to confirm product compliance. Upon confirmation of compliance, UL issues a Notice of Authorisation (NoA) to the manufacturer, who may then apply the UL label to the product and ship it as UL Listed.

Certification

To determine ongoing compliance with requirements, certification confirms the tested results are also delivered by the factory manufacturing procedures. For international access, joint certification is the ideal option, addressing different regions and/or fire and emissions requirements in one process, helping to save significant time and money.

Factory Production Control & Follow-Up Services (FUS)

Following certification, UL performs regular Follow-Up Services (FUS) at the manufacturing facility to ensure that the products produced are representative of the product evaluated. This helps identify problematic issues in the supply chain, such as component or material substitutions, and ensures the continued high value of the UL Mark.

Online Certifications Directory

The certified product is then entered into UL's Online Certifications Directory. This directory is a valuable, free-of-charge resource used by stakeholders looking for specific products certified in accordance with the requirements of UL Standards (available at www.ul.com/database).

Data Acceptance Programme (DAP)

While it is generally required that certification testing be performed at independent testing facilities, in some cases manufacturers with adequate internal testing capabilities may qualify for data acceptance arrangements, such as the:

- Witness Data Programme
- Client Test Data Programme
- Total Certification Programme

In nearly all programmes, product tests conducted at a manufacturer's test facilities are supervised by UL staff.

Read more about these programmes at www.ul.com/dap

For more information, please contact your local sales team or visit ul.com



CHEMICAL EMISSIONS testing and certification

UL also tests and certifies to all major chemical emissions standards, including the key European standards, such as those listed here. For further information please see ul.com/environment.

European National Standards

UL Environment will test to a variety of standards, including standards for resilient, textile and laminate floor coverings (EN 14041), parquet and wood flooring (EN 14342), parquet adhesives and coatings, floor covering adhesives, as well as flooring underlays. Additionally, we test to AgBB standards (Health Related Evaluation of Volatile Organic Compounds from Building Products) which specify the requirements of the Construction Products Regulation (CPR), particularly in terms of emissions.

French VOC A+ label (Émission dans l'air intérieur)



In France, construction, decoration and furnishing products must be classified and labelled by manufacturers for volatile organic compound (VOC) emissions tests.

From September 2013, this mandatory emissions classification and labelling regulation not only applies to new product releases but also products already in circulation on the market. The French VOC label is required in addition to the CE mark (as specified for the respective product).

GREENGUARD Certification



GREENGUARD Certification from UL Environment is an internationally recognised product emissions certification for indoor materials, furnishings and processes. GREENGUARD standards include criteria from Germany's Blue Angel Programme, the US Environmental Protection Agency, the State of Washington's Indoor Air Quality Program, and ASHRAE. GREENGUARD Certified products help create healthier indoor environments and satisfy the requirements of hundreds of green building programmes, guidelines, codes, and standards around the world, including CA 01350, the Collaborative for High Performance Schools (CHPS), Green Globes, Green Star, GSA and the LEED® Green Building Certification Program.

Global Product Emissions Compliance Validation



UL Environment helps manufacturers gain access to markets in Europe and North America through a new Global Product Emissions Compliance Validation. This allows manufacturers to demonstrate compliance with the primary global product emissions requirements in one convenient, flexible testing package. Compliance requirements include the new European Union emissions standard CEN TC 351, AgBB / DIBt testing (Germany), VOC A+ (France), CDPH / EHLB / Standard Method V1.1, a.k.a. Section 01350 (California), LEED® Green Building Certification Program, International Green Construction Code (IGCC), BIFMA M7.1/X7, and many more.

LEED® Green Building Certification Program



The LEED® program (developed 1998 by the U.S. Green Building Council) is one of the world's most important voluntarily quality examinations for environmentally friendly, low-pollutant, low-emission, and sustainable buildings. A LEED® certificate can be awarded to buildings, not to construction products. UL Environment provides information, testing, and certifications to product manufacturers for access to building rating systems like LEED®, DGNB, BREEAM and others. Manufacturers can find our LEED Package information at: <http://industries.ul.com/environment/leed-package>.



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