

第二届“中国绿色产品”标识与认证体系建设国际研讨会



UL绿色标准与合规评估概述

--实践案例分享

2016年6月30日
杭州

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实践案例分享议程

UL ECOLOGO®环保标识

UL GREENGUARD® 绿色卫士

UL Ecologo多属性环境标准

建筑材料

UL16 Thermal Insulation
UL20 Wall board
UL33 Office Furniture
UL47/UL48 Surface Coatings
UL102 Door Leafs
UL150 Steel
UL152 Flooring Products
UL167 Mosaic Tiles
UL2761 Sealants/Caulking Compounds
UL2762 Adhesives
UL2763 EE Cancellations Transformers
UL2764 Gas Fired Condensers
UL2766 HVAC Systems
UL2768 Architectural Surface Coatings
UL2778 Recycled Plastic Products

个人护理

UL103 Personal Care
UL2783 Hand Sanitizer
UL2784 Hand Cleaners

卫生清洁用品

UL2791 Drain/Grease Trap
UL2767 Paint/Varnish Remover
UL82-86 Sanitary Paper
UL106 Laundry Bleach
UL2776 Laundry Detergent
UL2792 Biologically-based Cleaning/Degreasing Compounds
UL2798 Biologicals for Odor Control and Cleaning
UL2759 Cleaners
UL2777 Floor Care
UL2780 Urinal Blocks
UL2794 Disinfectants
UL2781 Pool & Spa

办公相关

UL33 Office Panels
UL35 Office Machines
UL2801/UL2803 Printing Related
UL2771 Paper
UL2773 Pens/Mechanical Pencils
UL2785 Printing Cartridges

燃料/润滑剂/交通工具

UL60 Corrosion Control
UL61 Car Wash
UL69 Lubricants
UL73 Combustible Gel Prods
UL74 Solid Biofuels
UL138 Runway Deicing
UL2779 Dust Suppressants
UL2797 Marine/RV Tank Holding Treatment

包装/包装袋

UL75 Pulp
UL76 Paper Board
UL79 Business Forms
UL80 Envelopes
UL87/UL100 Bags
UL125-127 Resin and Plastics
UL135 Beverage Packaging
UL145 Food Containers

电子产品和家电

UL110 Mobile Phones
UL106 Lighting
UL2841 Tablet
UL2853 Mobile Hotspot
UL2887 Wearable Electronic Product
UL7001 Refrigeration Appliances
UL7002 Portable and Floor Care Appliances
UL7003 Clothes Washers
UL7004 Cooking Appliances

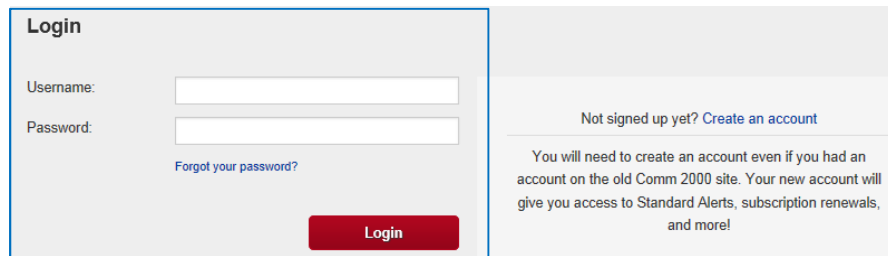
外部多属性环境认证标准

NSF 140 and 332 (carpet and resilient flooring)
IEEE 1680.1 Computer, Notebook and Monitor
IEEE 1680.2 Imaging Equipment (Printer, Scanner)
IEEE 1680.3 TV
TCNA Green Squared
A138.1 (tiles)
BIFMA level (commercial furniture)

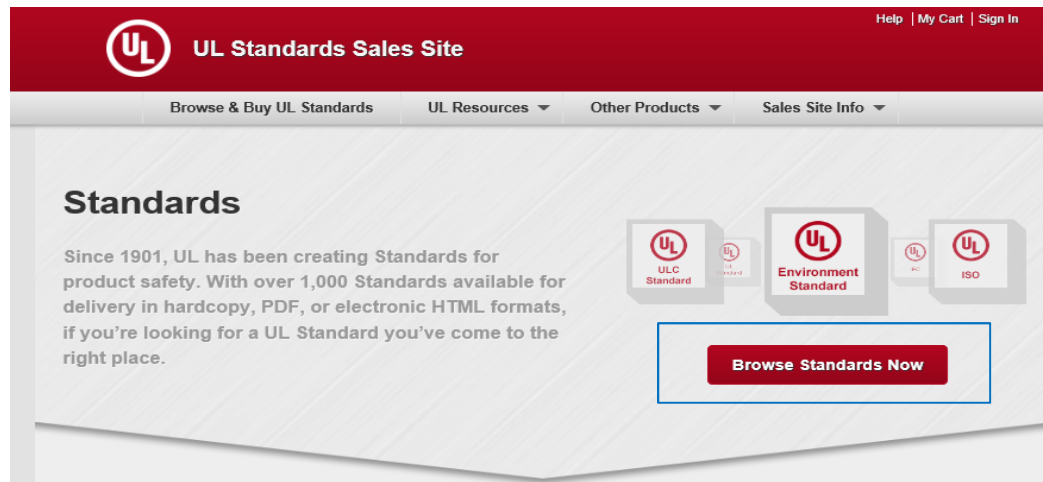


UL 标准购买与下载

URL: <http://www.comm-2000.com/> 简单5步



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UL Standards

Browse Standards

UL Environment 110 Search Standard Number Keywords

100 - 172 175 - 2764 2765 - 2776 2777 - 2792 ... 2821 - 2824

View per page: 10

3. 搜索

Standard for Sustainability for Mobile Phones

UL Environment Standard

Scope
Summary of Topics

Standard 110, Edition 1

Edition Date: March 14, 2012

\$0.00-\$50.00

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Standard : UL Environment 110 Ed. 1 March 14, 2012 Standard for Sustainability for Mobile Phones Secure PDF	1	\$0.00	\$0.00
			Total: \$0.00

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环保标识认证综述

认证为领先项目

#2 | 类 全球生态评估标签

应用于**300**余规范说明



其它商标集团的成功范本

在市场研究方面，为产业领导者

77
现行标准

10,000+
已认证产品

450+
客户

212
产品种类



UL Ecologo环保标识 准则

基于生命周期

原材料选材
生产
使用阶段
运输，销售
产品报废

行业领先标准

多属性

能源、水、废弃物
有毒物质; 人类和环境健康
包装材料
可降解材料
企业社会责任



实际标准和要求取决于具体产品类型，同时标准和要求也在不断发展。

移动装置的环保评估市场动态—以Sprint为例

January 09, 2012



Sprint Raises the Bar on Sustainable Design Through New Product and Packaging Standards

UL Environment Certification, Improved Reparability and Greener Packaging Criteria Coming to Sprint in 2012

LAS VEGAS ([BUSINESS WIRE](#)), January 09, 2012 - Recently earning the No. 3 spot on [Newsweek's 2011 Green Rankings](#), [Sprint](#) (NYSE: S) has updated its environmental scorecard evaluation criteria for phones and packaging for device manufacturers and vendors. The scorecard is revised each year to ensure continuous improvement of sustainable design considerations across Sprint's portfolio.

Starting Jan. 1, Sprint's environmental scorecard now requires all phones go through the UL Environment certification process – an industry first; specifications to improve reparability; and criteria that will drive more sustainable packaging. The changes will ultimately reduce the company's overall impact on the environment and save the company money.



移动装置的环保评估市场动态—以Verizon为例



2014 VERIZON CORPORATE RESPONSIBILITY SUPPLEMENT

GOAL ▶ Evaluate the entire wireless device portfolio for UL environmental certification.

PROGRESS ▶ We evaluated the full portfolio and twelve devices were UL Environment-certified in 2014.

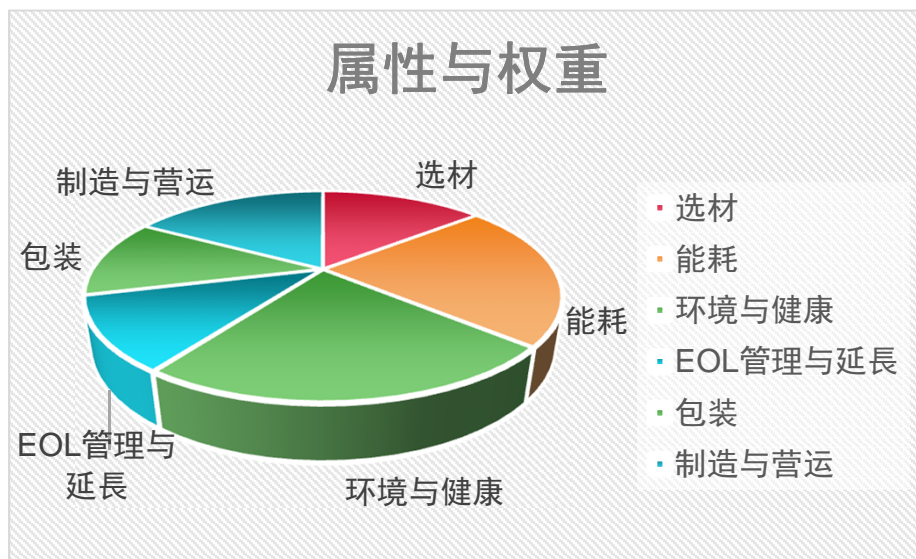
The designation is made by Underwriters Laboratory (UL), which has developed sustainability standards for mobile device design and performance.

UL traditionally tests products for safety. The UL 110 standard provides manufacturers with a way to showcase environmental leadership and product stewardship.



UL Ecologo属性与权重

以UL110 –手机可持续性发展标准为例



等级	% 分值 比	# 分数
认证级	55%	59
铂金级	73%	78



UL 110 – 手机产品 可持续性评分表格	
属性	最高得分
选材	15
能耗	24
环境与健康	25
EOL管理与延长	12
包装	13
制造与营运	18
总分数	107
创新加分	10

审核中的技术要素

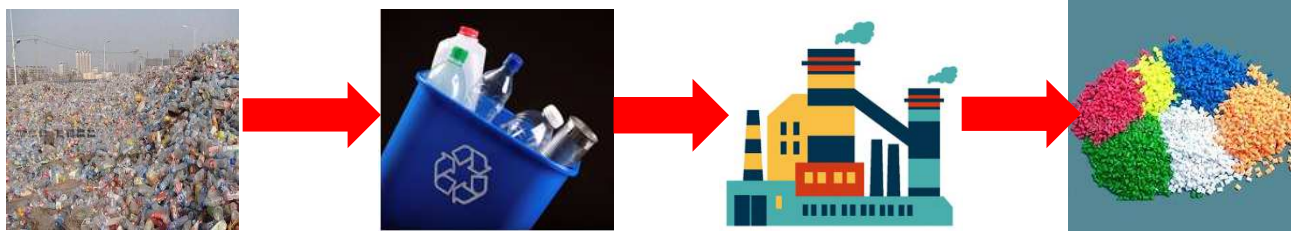
环保要素	标准参考	要求描述	分值	审核	文件提供
材料	8.1	冲突矿产	1	是	是
	8.2	REACH SVHC	5	是	
	9.1.1	外壳中回收塑料的应用	5	是	是
能耗与能效	9.1.2	电源外壳中回收塑料或生物基材的应用	4	是	是
	10.1	充电连接器	2	是	是
	10.2	备用电源能效	20		是
	10.3	手机连接器	2		是
健康和环境	11.1	RoHS	必需	是	是
	11.2	镍	必需		是
	11.3	PVC	3		是
	11.4	邻苯	2		是
	11.5	低卤素PWB	2		是
	11.6	低卤素手机	3	是	是
	11.8	低镉和汞电池	必需	是	是
	11.9.1	低五氯苯酚	必需		是
	11.9.2	低二丁基锡和二辛基锡	必需		是
	11.9.3	低偶氮染料	必需		是
	11.9.4	低二甲基延胡索酸	必需		是
	12.1	皮肤接触毒性评估	3		是
	12.2	可接受的评估报告	5		是
	13.1.1	LCA	3		是
	13.2	独立的LCA报告	2		是





		LCA结果反应在CS (corporate sustainability)			
	13.3	报告中	2		是
EOL (生命周期) 管理	14.1	回收计划	2		是
	14.2	再循环能力	5		是
	14.3	替代零件	1		是
	14.4	回收站审查	1		是
	14.5	电池回收	必需		是
	14.6	容易拆解	1		是
	14.7	常用塑料	1	是	是
	14.8	记忆消除	1		是
包装	15.1	纤维材质包装	3	是	是
	15.2	可回收塑料包装	2	是	是
	15.3	无聚苯乙烯包装	必需		是
	15.4	纤维板, 回收材料, 无氯, 可快速再生	3	是	是
	15.5	低Cd,Pb, Hg, Cr6+	必需	是	是
	15.6	无石油基墨水	1	是	是
	15.7	无胶或水性胶	1	是	是
	15.8	包装数量	1		是
工厂和生产	16.1	CS 行动计划	4		是
	16.2	CS 报告公布	2		是
	16.3	第三方验证	1		是
	16.4	供应商符合CS计划	2		是
	17.1	公布的EHS政策	必需		是
	17.2	正式的EMS程序和认证	2		是
	18.1	供应链影响	5		是
	18.2	ISO 14001or EMAS	2		是
创新	19		10		是

案例1-条款9.1：外壳含消费后回收塑料 Postconsumer Recycle Content



计算: $x \% = \frac{\text{外壳回收塑料重量}}{\text{外壳塑料总重量}} \times 100\%$

回收塑膠比例	分數
$\geq 5 \%$	1
$\geq 15 \%$	2
$\geq 25 \%$	3
$\geq 40 \%$	4
$\geq 60 \%$	5



案例2-条款14.6 手机易拆解



案例3-14.5 电池可移除

电池形式一










电池形式二



电池形式三



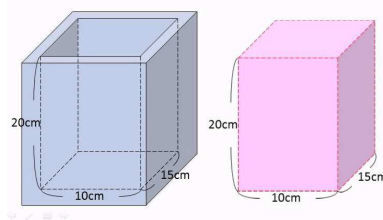
案例4-15.1包材使用可回收纤维材料

Fiber Base Material	Non - Fiber Base Material
  	   



案例5-15.8包材容积比

计算:容积比例 = $\frac{\text{产品+配件+说明书体积}}{\text{包装外盒总体积}}$



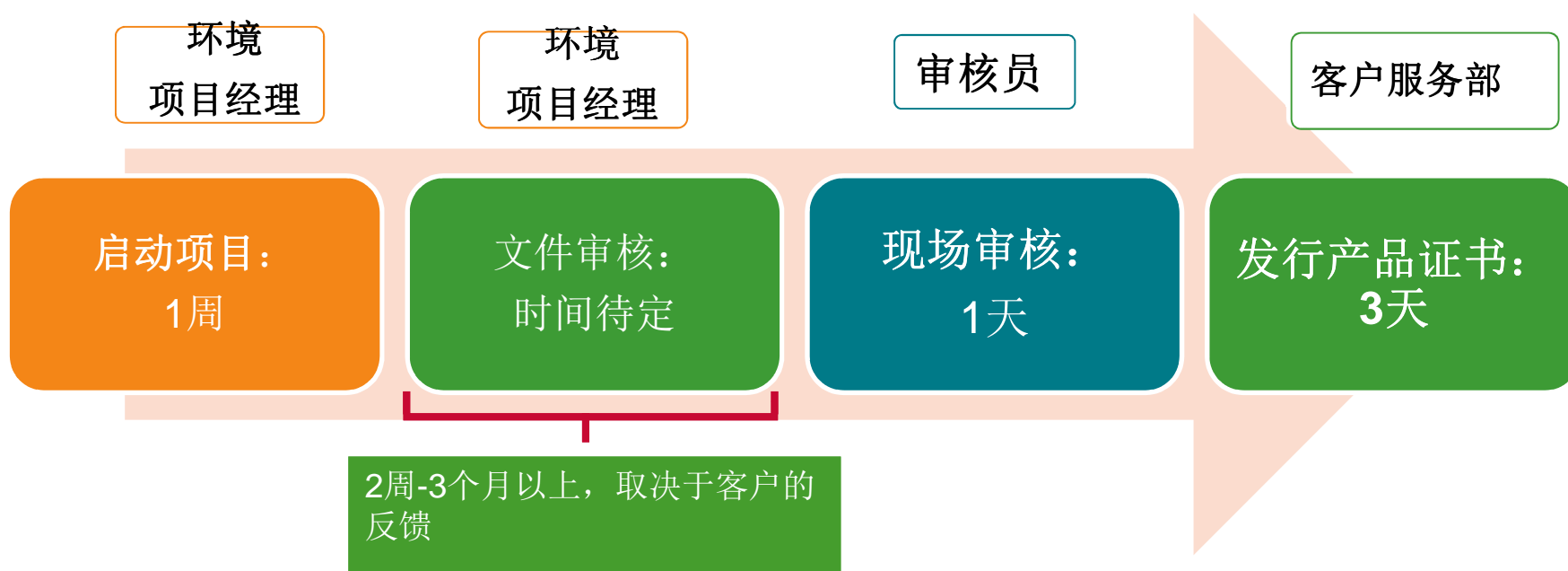
容积比	得分
≥ 0.1	1
≥ 0.25	2
≥ 0.5	3



问题：哪种包装更“环保”？



ECOLOGO项目 流程与时间安排



时间安排以自然天计。

厂审准备文件-范本



UL Environment On-Site Audit Preparation Guidance

Purpose and Scope of On-Site Audit

- The purpose of the on-site audit is to verify the environmental compliance of your product.
- The auditor will verify compliance by:
 - Reviewing documentation on-site that demonstrates you are manufacturing the product as declared
 - Witnessing the processes you have in place to ensure ongoing compliance
- The scope of the audit includes only the products under review by UL Environment.

Audit Logistics

- The audit will be performed by a UL Environment trained auditor from your respective region.
- This UL Environment audit is completely independent of other UL audits and follows a unique format specifically designed to confirm compliance of your product(s).
- Production will never be interrupted or shut down based on the findings of this audit. The auditor will not pull product or parts from the production line.
- The audit will take no more than one day to complete.
- Prior to the audit, we will offer to conduct a pre-audit phone call with you and your assigned auditor to review the agenda for the audit and to answer any remaining questions.
- The audit date will be scheduled ahead of time for a mutually agreeable date.

On-site Arrangements for Audit Team

To facilitate a comprehensive and effective audit, UL Environment requests the following be available during the audit:

- Office or conference rooms for meeting activities and report writing.
- Provision of lunch on site if possible.
- An escort to guide us through the areas and introduce us to the appropriate department / function representatives. The escort should be expected to witness the assessment and have some familiarity with the facility being audited.

Tentative Audit Schedule

8:00 – 8:15am	Opening Meeting (entire team)
8:15 – 9:00am	Facility Tour
9:00am – 12:00pm	Audit – Interview Staff
12:00 – 1:00pm	Lunch
1:00 – 3:30pm	Audit – continue to Interview Staff
3:30 – 4:00pm	Closing Meeting (entire team)



What Type of Questions Will the Auditor Ask?

The on-site audit questions are provided in the on-site audit tab of the results spreadsheet provided by ULE throughout your project.

What Will the Auditor Ask to See?

- During the audit, the UL Environment auditor will ask to tour the facility, view the production process and have access to documentation on-site specific to relevant audit criteria.
- The auditor's checklist includes observations of general production and quality systems in your facility and items specific to the sustainability assessment you're undergoing with ULE. On the checklist, our UL Environment auditor will record the verification method used to check each criteria, evidence he/she saw on-site, and names and titles of people interviewed to verify compliance.
- Verification methods used will vary from viewing your incoming inspection process of parts, reviewing purchase orders, reviewing production documents, interviewing staff on processes in place etc.
- Examples of evidence may include: Certifications of Conformance or declarations of compliance from suppliers, purchase orders, production records etc.

What happens if a Non-Conformity Report (NCR) is issued?

- If the UL Environment auditor has a major finding during the audit, a Non-Conformity Report (NCR) will be issued. You will get a copy of the NCR prior to the auditor's departure from your facility. Examples of major findings are not having scales calibrated or not having a system in place to identify raw materials that are used in production.
- Over the next 30 days, you will work with your Environmental Project Manager (EPM) to resolve the NCR by conducting a root cause analysis. You'll need to report your findings and proposed resolution on the NCR form and send along to your EPM for review and approval.
- If a resolution is not reached within 30 days, your project will be closed and a certification will not be issued. You can continue to work on a resolution and when ready, you can contact your EPM to restart the project.
- Once your EPM approves your resolution(s), your project will be completed and a certification will be issued.
- During the next annual review, you can expect to have your facility audited to ensure the NCR resolutions have been successfully implemented.

Next Steps Upon Completion of the Audit

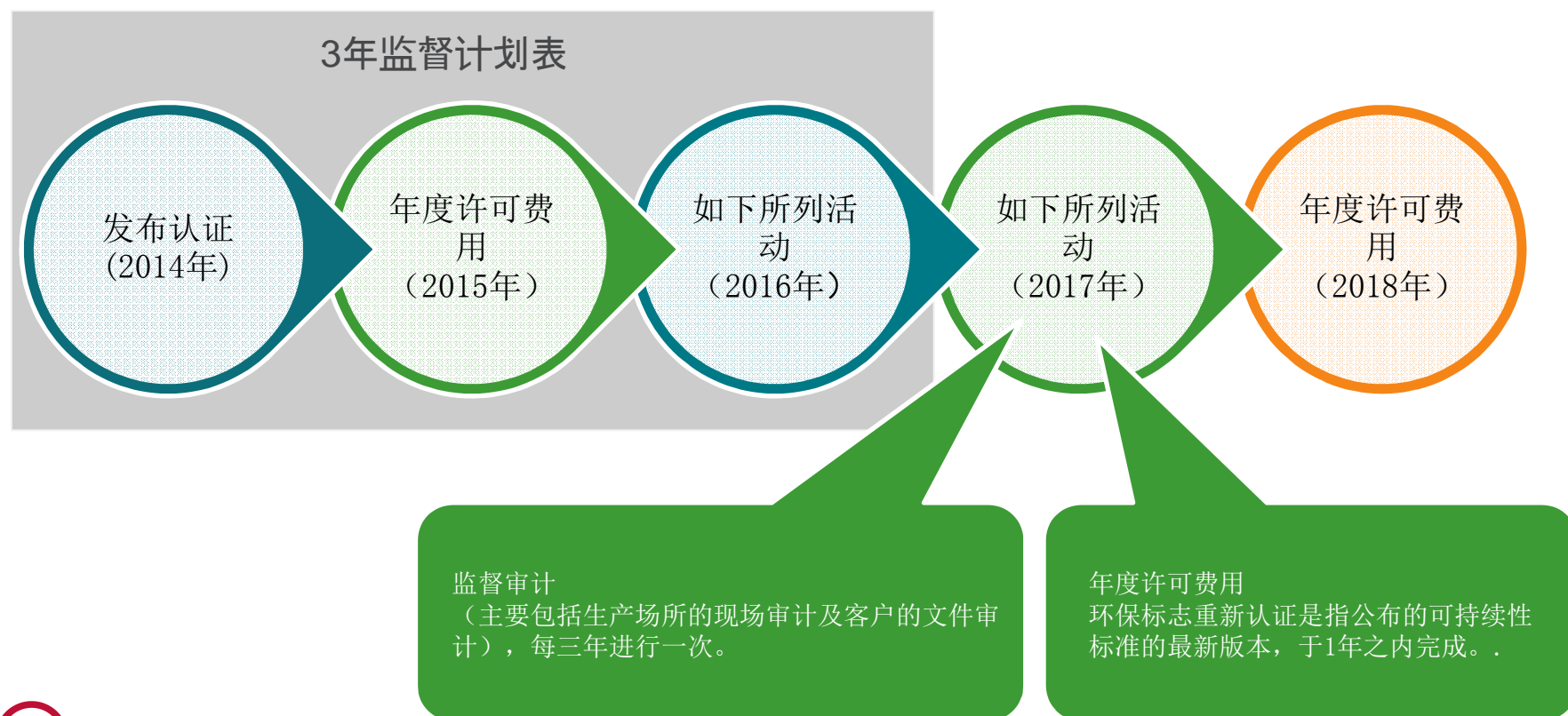
- An audit report will be provided within the on-site audit tab of the results spreadsheet. The completed on-site audit tab summarizes the audit scope, completion date, provides any areas for improvement that were identified along with the completed on-site audit questions. Areas for improvement are not major findings, but instead opportunities on how to improve your process that can be implemented over the course of the next year.

厂审文件表格-范本

Criteria #	Criteria Title and Requirement	Audit Objective	Meet requirement?	Audit Evidence / Quality System Documents
B	Supplier qualifications	Verify and describe how suppliers are qualified.		
8.1	Materials Sourced from Conflict Areas	Verify that the manufacturer has a system in place to ensure that any gold, tantalum, tin and tungsten and are not mined in conditions of armed conflict and human rights abuses (for example: from the Democratic Republic of Congo) Review declarations, letters from suppliers, policies, or communication to employees, customers and investors.		
8.2	Compliance with Substances of Very High Concern (SVHC) under REACH	Verify that the manufacturer has a system in place to ensure that the product is in compliance with Substances of Very High Concern under European REACH Directive. Review declarations, letters from suppliers, policies, or communication to employees, customers and investors.		
9.1.1, 9.1.2	Raw material list/inventory and Use of reclaimed manufacturing waste or recycled or biobased material	Verify the product bill of materials or formulation using the bill of materials provided during the desktop audit. Confirm the amount of reclaimed manufacturing waste or recycled materials used in the final product based on the bill of materials provided during the desktop audit. Check incoming inspection for supplier CoCs and/or test data. Trace CoCs to the purchase orders to determine component requirements. Verify that through a declaration or test data, that components checked comply with this criterion.		
10.2.1	Energy Efficiency	Verify Energy Efficiency report for external power supply is for part number indicated in the Document Review portion of the project.		



年审计划-持续合规



UL ECOLOGO®环保标识

UL GREENGUARD® 绿色卫士

UL GREENGUARD 绿色卫士认证概述

2001年以来低化学物质释放的产品认证

北美室内空气
质量认证领导
者认可



科学性试验及健康
评估

此品牌在2011年
被美国UL公司收
购

逾400家参
与制造商

25种 产品类别

免费在线产品目录
中逾12000种代表
产品



绿色卫士认证类型

绿色卫士认证有两个认证级别：









- GREENGUARD认证是北美第一个**自愿性**室内空气质量认证，专门为商业建筑产品开发。这一认证要求产品满足严苛的**化学释放**要求，包括**360多种VOC**，以及对总化学释放量的限制。认证产品符合**BIFMA x7.1**标准
- GREENGUARD金级认证是专门为对健康敏感的儿童和其他精神健康脆弱人群开发的。它基于公共健康机构的关键指标。这一认证对**360多种化学物**设立了世界上最严苛的释放限额。认证产品符合**California 01350**。



化学物释放量Chemical Emissions测试能力：

Europe

	Cork logo	Cork Products
	Golden M	Furniture
	Naturtextil IVN certification	Textiles
	GOTS label	Organic Textiles
	DGNB certificate	Sustainable buildings
	Nature Plus	Construction Products
	GEV EMI CODE	Flooring Underlays and Construction Products
	eco-INSTITUT	Floor coverings, adhesives and underlays
	AgBB	Building construction products

	GUT	Carpet
	CE	Flooring
	M1-classification	Construction Products
	EU Ecolabel "Flower"	Paint, Varnish, Floor coverings, Mattresses, Furniture, Textiles, etc.
	OekoControl	Ecological Furnishings
	French regulation	Walls, Ceilings, Floor coverings and coatings, Doors, Windows, Insulation, etc.,
	Afsset/ANS ES; French VOC label	Building construction products
	Der blaue Engel (Blue Angel)	Print devices, flooring, building materials, RAL-UZ: • 122 • 119 • 117 • 171 • 120 • 132 • 38 • 123 • 148 • 102 • 128 • 130 • 113

North America

	Green Label Plus and Green Label	Carpet, Carpet Adhesive and Cushion
	BIFMA X 7.1	Furniture
	California Section 01350	Building Materials
	California Proposition 65	All product types
	California Dept. of Public Health	Air Cleaners, 2276 Air Cleaner Regulation
	UL – 867	Ozone Testing for air cleaners
	US FDA 501k	Emissions from ventilators and respirators

Japan

	Japanese Electronic	Laptops, Desktops, All-in-One Computers, Monitors
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GREENGUARD认证流程

1

制造商提出认证意愿

2

制定认证计划(1-4 周)

- UL和制造商召开策划会议
- UL进行制造审查&产品评估
- UL进行测试组建立

3

认证合规测试(5 - 8 周)

- Profile Test 筛选测试
- Certification Test 认证测试

4

完成的认证合规包提交给UL环境

- 客户和UL完成认证申请表
- 认证进行外部审查
- UL 确定正在进行的合规计划

5

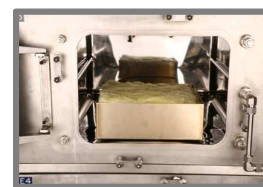
GREENGUARD证书颁发

- 制造商将产品上传到UL环境产品数据库
- 产品和宣传中使用认证标志

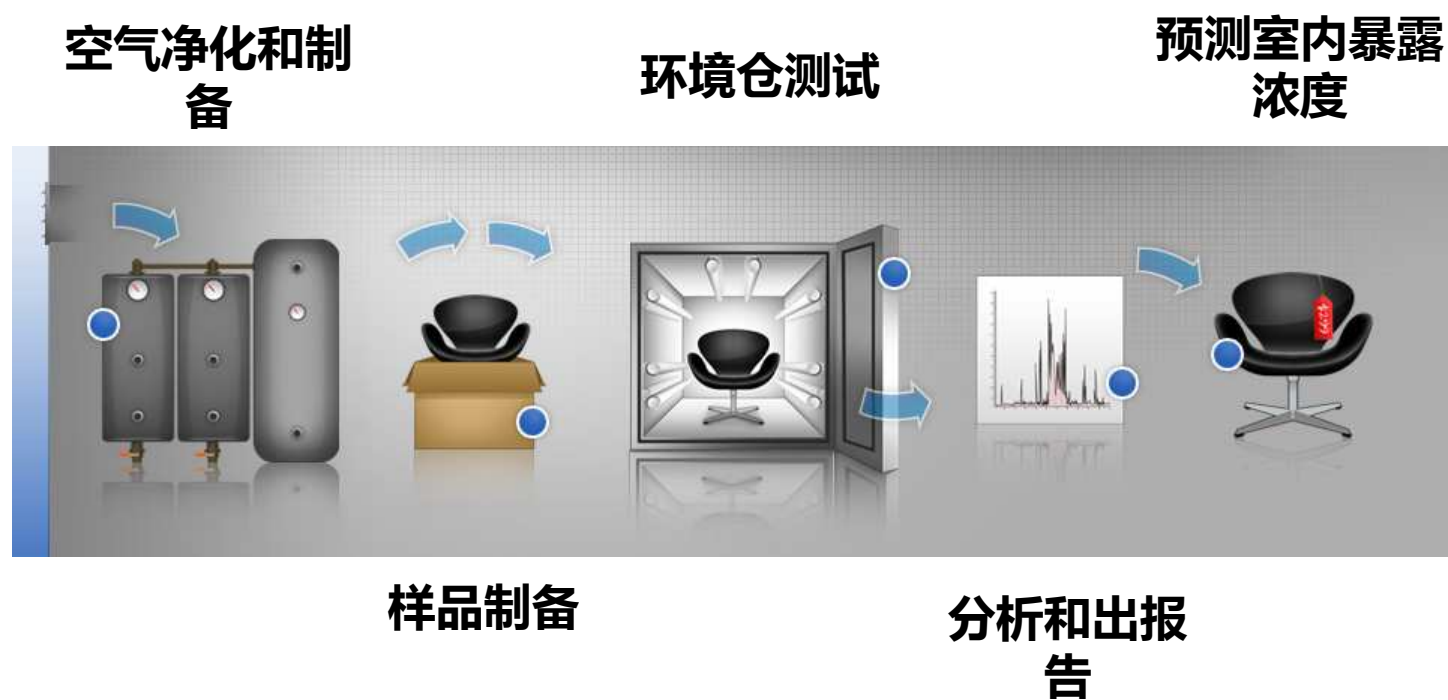
6

后续跟踪服务

- 年度检测——针对典型产品
- 季度检测——针对原料或组件抽查



产品化学物释放量测试流程

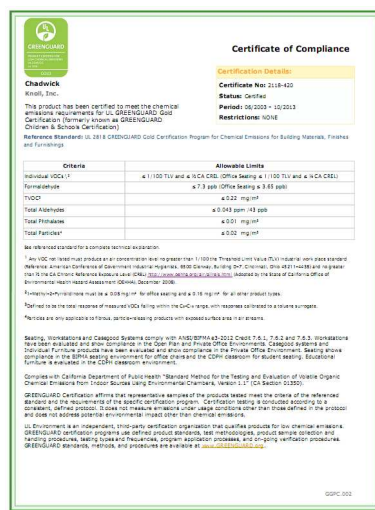


获证交付

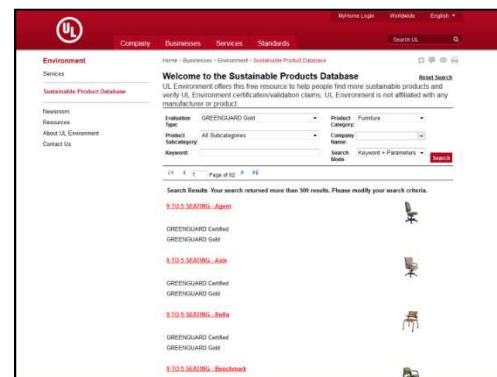
认证标志



证书



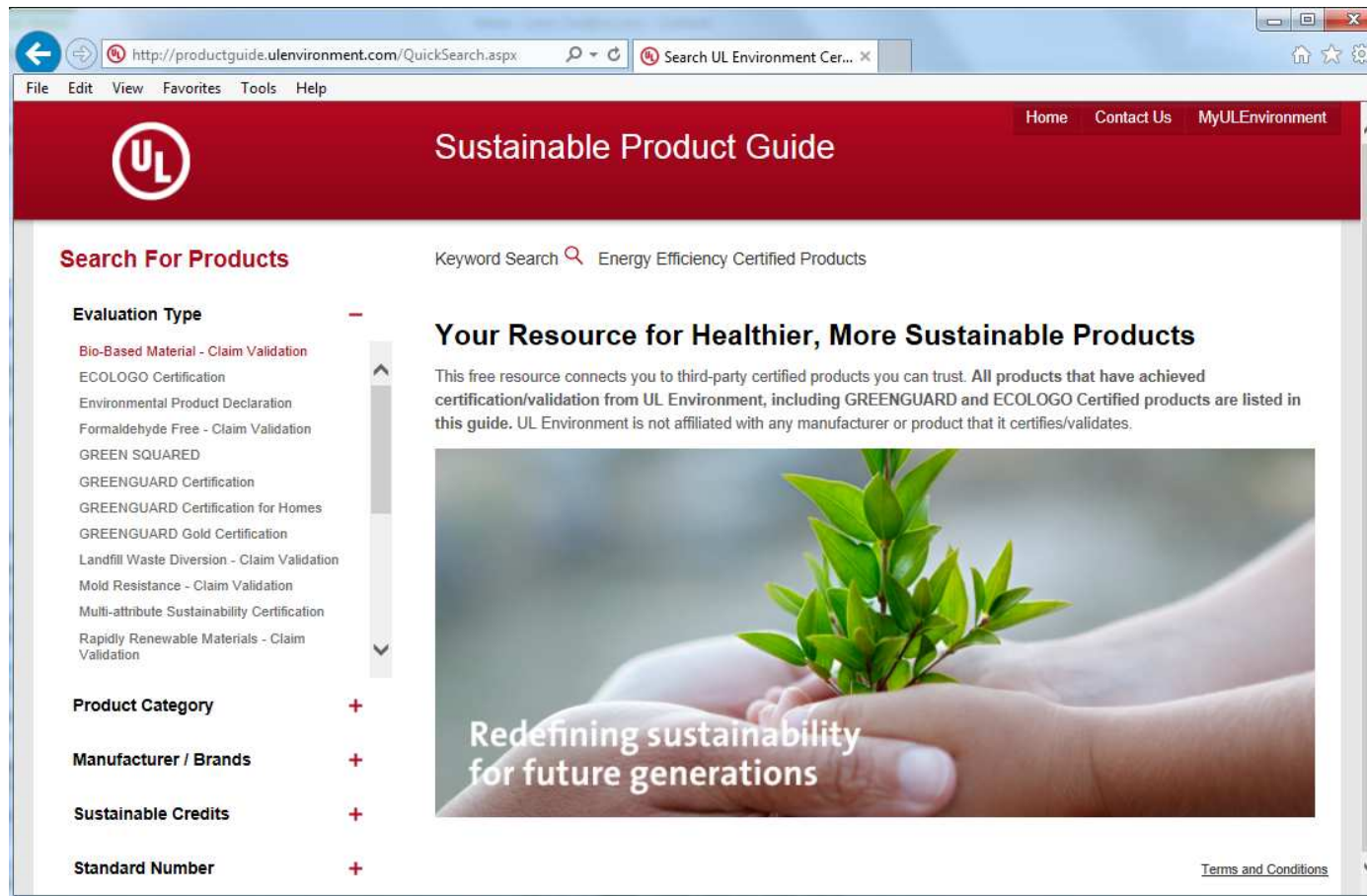
信息化平台



ul.com/spg



<http://productguide.ulenvironment.com/QuickSearch.aspx>



解疑答惑。

谢谢！

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+86 139 2428 9093