

White paper

# Labeling With Safety in Mind

## **UL-recognized media streamlines compliance labeling, certification process**

Alternating Power. Neon lights. Switchboards. Two-phase Induction motors. These are just a few of the new technologies that were shown together for the first time at the 1893 Chicago World's Fair in the "Palace of Electricity," the first building devoted solely to electrical exhibits.

William Henry Merrill, a little-known, 25-year-old electrical engineer from Boston, was not just dazzled by the depth and breadth of what he saw; he also recognized the need for testing and certifying the safety of electrical products. So he stayed in Chicago and in 1894 opened the Underwriters' Electrical Bureau, which became Underwriters Laboratories (UL), the leader in product safety testing and certification in the U.S.

Today, UL's staff of more than 6,000 manages 876 standards across 18,850 types of products. In all, 19 billion UL marks have appeared on products.

### **UL Designations**

Consumers think of UL as the label on the products they purchase, but the company tests and verifies a wide range of materials and components that go to making the finished product. By using UL tested materials, finished goods manufacturers can have a much higher level of confidence that the finish product will pass UL's rigorous testing processes.

*UL Listing Service* is the most widely recognized of the company's certification programs. A UL Listing Mark on a finished product means it has been tested to UL's nationally recognized safety standards and was found to be free from reasonable, foreseeable risk of fire, electric shock, and other hazards.

*UL Component Recognition Service* tests and evaluates component products that are incomplete or restricted in performance capabilities. These components will be used later in a finished product or system that would then be tested for UL Listing. The recognition service covers literally millions of components, such as plastics, wire, printed wireboards, and even the material and adhesives that make up the compliance labels that are placed on the component.

*The UL Classification mark* on products indicates that they have been evaluated for specific properties, a limited range of hazards, or suitability for use under limited or special conditions. These products usually fall into the categories of building materials and industrial equipment.

### **Compliance Labeling**

Printing serialized compliance labels using UL Recognized labels and ribbons is a small, but important part of the manufacturing process. These labels list required safety related information such as warnings, cautionary markings, installation instructions, or electrical ratings.

Placing a non-recognized label on an otherwise UL-compliant component or finished product can jeopardized the product being UL Listed.

Products that are UL Recognized are considered suitable for use as a component of UL Listed or Recognized end products under

specific *Conditions of Acceptability*. Those conditions include the surfaces to which the label may be applied, the temperature ratings, and various exposure conditions.

UL Recognized labels fall under one of three major categories:

### **Category PGDQ2 - Marking and Labeling Systems**

PGDQ2 is intended to cover printed labels that are manufactured by a label converter. As a general rule, these labels are sold as finished printed labels, although in some cases variable information may be added by the end product manufacturer using dot matrix printers with specific impact ribbon inks.

### **Category PGGU2 - Marking and Labeling Systems - Materials**

PGGU2 covers the manufacturers of label materials. Products in this category would include blank label stocks, laminating adhesives, and overlaminates. These products are usually sold to label converters in bulk form for the purpose of creating printed labels.

Label converters who use recognized PGGU2 materials receive the benefit of the recognition granted to the material manufacturer. Although the surfaces and exposure conditions for which the materials are suitable can be passed along to the converter when a UL recognition of the printed label is established, it may still be necessary to evaluate the compatibility of the printing inks with the particular materials as well as the compatibility of two or more UL Recognized products (e.g. label stocks and overlaminates which might be purchased from different suppliers).

### **Category PGJ12 - Marking and Labeling Systems - Printing Materials**

PGJ12 covers products printed by end product manufacturers using thermal transfer, laser, or hot stamp printing equipment. These products may be sold by major suppliers in blank roll form or by converters as blank or preprinted labels in a smaller format.

Inks required for use with these labels will be specified in the UL recognition. In addition, for laser and hot stamp printing, the actual printing equipment is also specified. In 1995, UL determined that the durability of thermal transfer printing was not dependent on the specific equipment used and therefore, any thermal transfer printer which will produce a legible image can be used to produce labels with the thermal transfer inks and label materials identified in category PGJ12.

### **PGIS2 - Marking and Labeling Systems - Limited Use**

PGIS2, is for limited use labels that are applied to very specific products, such as electrical boxes and cabinets or power supply cords. Such labels are tested by other UL standards, and therefore are not recognized for general applications.

### **Other Standards**

Other UL standards may be used for testing labels designed for specific purposes (e.g. for use on step ladders, fire extinguishers or other special products).

In addition, UL also tests products in accordance with the Canadian Standard for labels, CAN/CSA C22.2 No 0.15. Since the CSA standard includes test methods that differ from UL, some additional testing may be necessary to grant C-UL Recognition for labels used in the Canadian market.

### **Intermec UL Recognized Compliance Labels & Ribbons**

Intermec has an assortment of UL Recognized polyester labels and thermal transfer ribbons suitable for a wide variety of compliance labeling applications.

#### **Take-from-Stock Labels**

Standard, take-from-stock labels and thermal transfer ribbons offer the most cost effective way to print on-demand compliance labels that meet UL Recognized standards. Intermec stocks the most popular sizes of common label materials and thermal transfer ribbons in its take-from-stock program. Intermec's UL recognized labels include:

- Duratran™ II Gloss Polyester - 2 mil gloss white
- All TMX3200 thermal transfer ribbon

#### **Custom Labels:**

For those companies who have special labeling requirements, Intermec can custom produce labels to meet the size, configuration, or multi-color printing needs of virtually any application. Custom UL Recognized labels include:

- Duratran™ II Gloss Polyester - 1 and 2 mil white labels
- Duratran™ II Gloss Polyester - 1 and 2 mil clear labels
- Duratran™ II Gloss Polyester - 2 mil silver labels

Intermec also offers a variety of permanent, high-tack, and industrial-performance adhesives to meet the needs of the most challenging applications.

#### **Streamlining the UL Listing Process**

Using UL Recognized labels helps speed products to market by ensuring finished products' certification won't be delayed due to non-approved materials being used. Whether the labels are printed 100 percent on demand or custom printed with company and product information before adding serialized information, UL Recognized media ensures a streamlined certification process and that the necessary product safety information is always available to your customers.

#### **Resources:**

**Underwriters Laboratories, Inc.:** [www.ul.com](http://www.ul.com)

More detailed information on certification marks can be obtained from UL by ordering brochure #200-109, the Guide for Printing UL Certification Marks.

**Intermec Technologies, Corp.:** [www.intermec.com](http://www.intermec.com)



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