



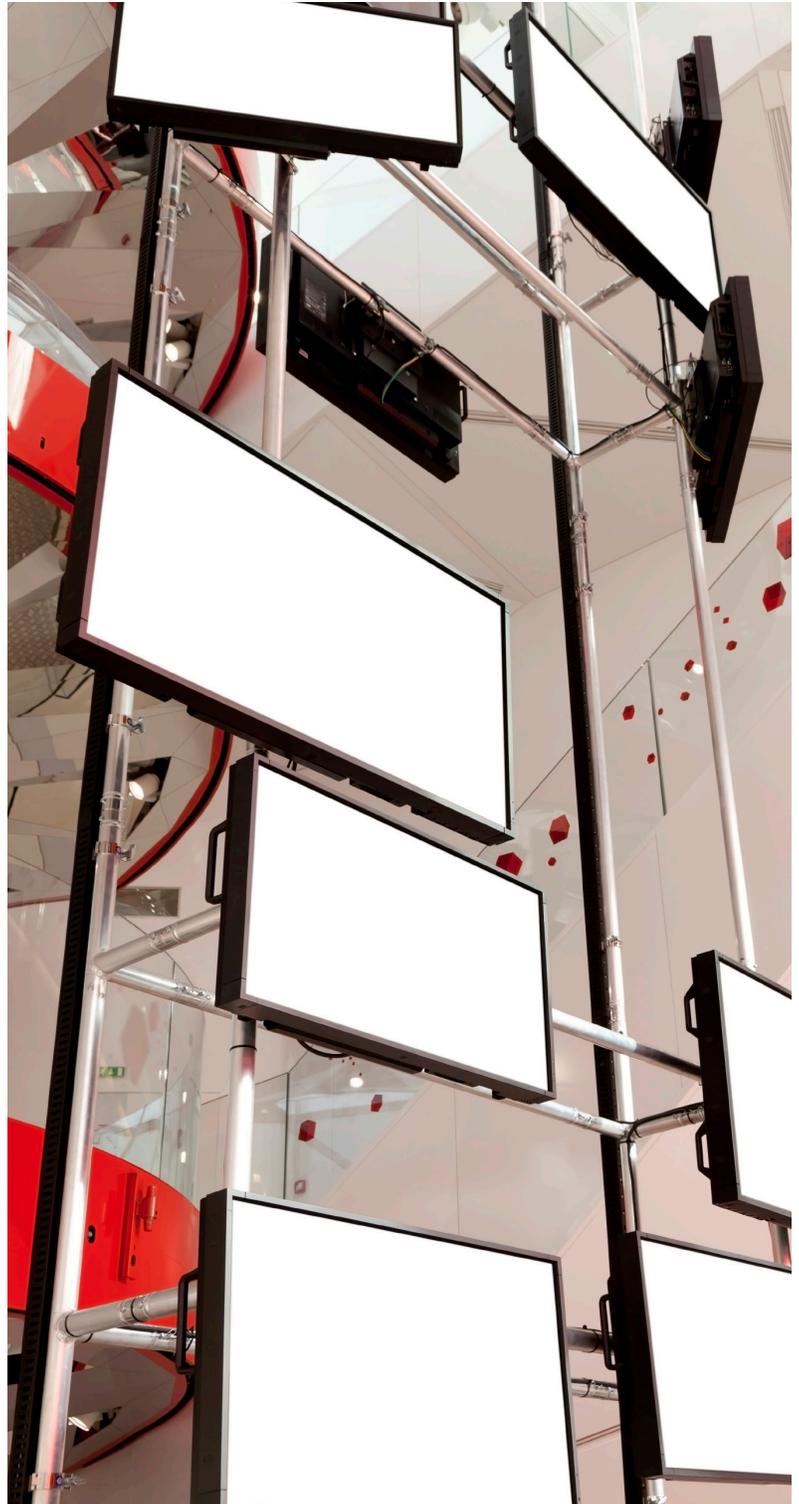
MAKING POINT-OF-SALE AND COMMERCIAL DISPLAYS SAFE FOR RETAILERS AND CONSUMERS



Attractive and well-designed point-of-sale and commercial displays can provide retailers with important advantages in an increasingly competitive retail environment. From traditional display cases showcasing luxury goods to standalone kiosks that demonstrate how a product is used or allow shoppers to check prices or print out coupons, effective retail displays can make it easier for consumers to find the product or product information they're seeking, directly supporting the retail sales effort. And attractive displays can contribute to the aesthetic appeal or perceived usefulness of a retail space, enhancing the shopping experience for consumers and driving sales of promoted products.

At the same time, modern retail displays pose a number of potential risks to both retail workers and consumers. Many displays incorporate lighting, on-board computing capabilities, or other electrical or electronic features that could be a potential source of fire or electrical shock. In other cases, retail displays must be designed so that they don't unexpectedly collapse under the weight of heavy products such as televisions and computers. And, in many jurisdictions, materials used in displays must be free of potentially harmful chemicals.

This UL white paper discusses the general safety issues related to displays used in retail and commercial settings, and the importance of selecting displays that have been evaluated and certified for their intended use. The paper begins with an overview of the expanded use of displays and their benefits to retailers and consumers. Then, the white paper reviews the legal mechanisms for enforcing minimum safety standards for retail displays, the risks of non-compliance and the value of independently tested and certified displays. The paper provides a summary of the coverage and requirements of UL standards applicable to retail displays, and concludes with recommendations for retailers on establishing an effective display evaluation program.





The Role of Point-of-Sale and Commercial Displays in Retail Today

The retail industry is undergoing sweeping changes, as more and more consumers turn to online retailers for many types of purchases.¹ For some operators of brick-and-mortar retail stores, this trend represents a direct threat to their traditional business model. However, many innovative retailers are exploring new ways to leverage retail locations in support of their e-commerce strategies, often using stores to showcase product examples from their virtual inventories. Indeed, as long as consumers see shopping as a form of entertainment, physical retail stores will continue to play a vital role in the retailing landscape.

As these changes transform retailing, point-of-sale (POS) and commercial displays are an increasingly important element in the overall effort to convert shoppers into buyers. Displays are not only an integral part of the aesthetics of the retail environment, but they also enable consumers to more quickly identify products that meet their specific requirements. Computerized kiosks can provide accurate and up-to-date information on comparable products, often facilitating the selection process without the need for personal assistance. Some additional examples of how effective displays can contribute to the overall retail experience include:

- *Effectively differentiate products in retail settings*— Shopping is a visual

experience and consumers are likely to be more attracted to merchandise that is well-presented and visually appealing. Effective displays are especially critical in showcasing high-margin luxury items such as jewelry, watches and leather goods.

- *Provide increased control over brand identity*— More than ever, consumers shop for identifiable brands with known attributes and qualities. Appropriately designed displays play an essential role in creating and sustaining consumer impressions of unique brand identities in retail settings.
- *Reduce dependence on on-site staff*— Self-service kiosks enable consumers to quickly check prices or availability of particular sizes or product quantities, and even order and pay for merchandise. This helps to reduce the customer service burden, and allows retail personnel to focus on more complex service issues.
- *Maximize the profitability of selling space*— Because they directly promote sales, effective displays can help retailers increase the profitability of their available selling space, enabling them to showcase and sell more products without increasing retail space requirements.
- *Offer effective competition with Internet-based resellers*— Displays of actual merchandise represent one of the most important advantages that store-based retailers have over online merchants. Effective displays are critical

in leveraging that advantage, and in bringing back repeat shoppers.

How are Retail Displays Regulated?

Most commercial retail displays incorporate features that require electrical energy to operate. As such, they are subject to compliance with the requirements of the electrical codes and regulations in force in the jurisdiction where they are installed, as well as approval of the display's design and installation by a local electrical inspector (referred to as the authority having jurisdiction or AHJ).

The requirements found in most local electrical codes are based on the National Electric Code® (NEC). Also known as NFPA 70, the NEC was developed under the auspices of the National Fire Protection Association, and is updated once every three years (the current edition was published in 2014). In adopting their own codes for electrical installations, states, cities, towns and other local jurisdictions typically incorporate the requirements of the NEC by reference, with or without local deviations.

As a final step in the construction or renovation of any space, building codes require that any installed electrical systems or electrical fixtures be inspected by the local electrical inspector for compliance with applicable electrical safety requirements. Local electrical inspectors are also authorized to conduct spot checks of electrical installations and fixtures installed in existing structures

¹ For example, see "Quarterly Retail E-Commerce Sales, 1st Quarter 2015," prepared by the Census Bureau of the U.S. Department of Commerce, for growth trends in e-commerce compared with overall retail sales. Web. 13 August 2015. http://www.census.gov/retail/mrts/www/data/pdf/ec_current.pdf.

to confirm ongoing compliance with electrical code requirements.

Electrical systems of all types can pose safety risks to both employees and consumers, including the risk of fire and electric shock. When it comes to retail display cases and fixtures, these risks can be compounded by a number of factors. Such factors include the demand for displays that are extensively customized to meet unique retailing requirements as well as the practice of frequently swapping out certain types of displays for new ones to maintain the interest of regular shoppers. Finally, vital components supplied by global supply chain partners may sometimes fail to comply with anticipated safety requirements.

Retail displays and display fixtures that fail to meet local electrical safety requirements can be “red tagged” by local electrical inspector and be required to be taken out of service. In some cases, noncompliance of displays with electrical requirements can also result in delays in the issuance of occupancy permits for newly constructed or renovated retail space. In these and other instances, retailers are likely to experience loss of revenue from anticipated retail sales, directly impacting the profitability of their operations.

The Advantages and Benefits of Certified Retail Displays

The selection and use of retail displays that have been certified as compliant with the requirements of independent safety standards can provide retailers with a number of significant advantages in the



highly competitive retail marketplace. These advantages and benefits include:

- *Reduced safety risk for employees and consumers*—Representative samples of certified displays have been rigorously evaluated for a range of potential safety risks, including electrical and mechanical safety. Product evaluations can also include compliance with requirements applicable in certain jurisdictions, such as flammability or chemical content and emissions. Finally, performance-related tests, such as surface and fast aging testing, may also be performed as part of product evaluation process.
- *Less likelihood of enforcement action by AHJs*—The electrical safety requirements of standards applicable to retail displays are consistent with those found in the NEC as well as electrical codes applicable in most jurisdictions. Therefore, for many electrical inspectors, retail displays that bear certification marks from known certification organizations typically benefit from a presumption of conformity with local electrical regulations.
- *Potential defense against legal claims of defective designs*—Reports of certified retail displays may provide important supporting evidence in efforts to defend against legal claims of defective product designs or retailer negligence.
- *Improved and consistent display quality*—Finally, manufacturers who submit their retail display products for third-party certification demonstrate their commitment to the safety of retail employees and consumers. That commitment is also likely to be reflected in their overall approach regarding the quality of their display products and their suitability for use. And retailers gain assurances that similar displays from different vendors meet the same safety standards.



UL Standards for Point-of-Sale and Commercial Displays

UL currently offers two separate standards for the evaluation and certification of retail displays. A summary of the coverage and requirements of these standards is provided in the following sections.

UL 65, the Standard for Safety of Wired Cabinets

Originally published in 1955, UL 65 is the primary standard for display cases and specialty purpose cabinets that contain electrical wiring with or without lighting or other illumination. Examples of retail displays covered by UL 65 include jewelry displays, lighted displays and merchandise cabinets that feature open or enclosed shelving. The seventh (and current) edition of the standard was published in 2010.

The electrical requirements specified in UL 65 are directly based on those found in the NEC (Article 410.59) and address construction and performance issues related to electrical components and wiring integrated within the fixture. As such, retail display cabinets that are certified to UL 65 are compliant with NEC requirements and should meet the requirements of local electrical codes. The standard also includes certain display construction requirements for joints and corrosion resistance that are intended to protect electrical components and wiring from wear or undue stress that could compromise their safety.

Under the scope of UL 65, individual electrical components such as plugs, ballasts, cables, cord sets, lamp holders

and switches integrated into the finished display are subject to the requirements of the individual standard applicable to that component (for example, lamp holders must meet the requirements of UL 496). Many common components and their relevant standards are listed in Appendix A of UL 65.

For more extensive display case installations, UL 65 permits the interconnection of up to six individual cabinets, provided that suitable instructions are included with each cabinet illustrating the correct connection of the wiring. The standard also details specific marking requirements for each certified cabinet.

UL 962, the Standard for Safety of Household and Commercial Furnishings

First published in 1996, UL 962 covers a more complex array of retail product displays, including computerized information centers, standalone merchandise kiosks, motorized wall systems and shelving units, and cash station stands.

The fourth edition of the standard was published in 2014, and separates unique requirements for some types of non-display products, e.g., massage tables and chairs, heated and cooled bedding systems, etc., into supplements to the standard. The requirements of the fourth edition become effective as of Jan. 1, 2016, when the third edition of UL 962 is scheduled to be withdrawn.

Similar to UL 65, UL 962 includes requirements for electrical components

and wiring that are consistent with provisions of the NEC. However, UL 962 incorporates provisions that permit retail displays to include integrated power outlets, allowing electrically powered equipment, such as televisions, computers and electronic devices, and small appliances to be plugged directly into the display's electrical wiring. This gives retailers the flexibility to showcase electrically powered products without the need for secondary electrical service.

However, the expanded scope of products covered under UL 962 also means an increase in the types of risks to which retail employees and consumers may be exposed. Aside from the risk of fire or electrical shock, these include physical entrapment for displays with motorized components, or risk of collapse or tip over under heavy loads. As such, UL 962 also includes requirements for the structural integrity, stability and mechanical strength of displays as well as their resistance to fire.

Choosing the Right Standard

Given the overlapping coverage provided by UL 65 and UL 962, determining which standard should be applied to a given display may be complicated, and consultation with an experienced third party is advisable. Generally, UL 65 is used as the basis for assessing most basic illuminated display cases, while UL 962 is used in evaluating displays with more advanced features, such as outlets for powering point-of-sale terminals or equipment on display.



Retailer Guidelines for Establishing a Display Evaluation Program

In the end, retailers can be held responsible for the safety of retail displays. But retailers can also be the driving force behind the push for safer retail displays by adopting policies and procedures that favor manufacturers that have their display products evaluated for known safety risks and certified to the applicable standard. Here are some suggested steps that retailers can take to support safer displays:

- *Identify minimum safety requirements for all displays*—Identifying the specific safety risks associated with retail displays, and the technical requirements needed to minimize those risks, depends on the types of products the retailer sells. UL 65 and UL 962 can provide important guidance for retailers seeking to establish baseline safety requirements for the displays they use.
- *Audit current display inventory to identify compliance gaps*—With minimum safety requirements established, auditing the current inventory of retail displays helps to determine the extent of compliance as well as compliance gaps that could put employees or consumers at risk, or which could subject the retailer to a temporary shutdown due to noncompliance
- *Integrate product certification into new display procurement policies*—Procurement and purchasing protocols applicable to retail displays can be

modified to incorporate specific safety and performance requirements. One way to accomplish this is to require certification of all display products purchased to the applicable safety standard.

- *Implement vendor review program to identify lapses*—Oversight of vendor compliance with procurement policies is essential. This can include random audits of display suppliers' facilities to verify that display systems and components meet the retailer's stated requirements.
- *Conduct unannounced store audits to determine compliance*—Finally, in cases where individual stores have discretion over deployment of retail displays, periodic unannounced audits can help uncover potential non-compliances and reduce further safety risks.

Summary and Conclusion

Effective displays are an essential component of today's competitive retail marketplace, but safety is of paramount importance to display manufacturers, retailers, retail employees and consumers. This is especially true with the introduction of more advanced displays that help to generate increased consumer interest, reduce or shift customer service requirements, and enhance the overall shopping experience. Displays that have been certified to current product safety standards have been evaluated for compliance with applicable electrical safety requirements throughout the U.S. and have also been assessed for additional potential safety hazards. As such, they help to protect

retail employees and consumers from unnecessary safety risks, and allow retailers to stay focused on their business.

UL offers a full range of testing and certification services for all types of retail displays. In addition, UL offers on-site field evaluations for displays that have already been installed as well as inspection and testing at suppliers' facilities to confirm that displays and components meet quality and safety specifications. For those parties in jurisdictions where chemical content notifications are required, UL can also conduct testing to determine compliance with applicable chemical limits and exclusions.

UL can help retailers mitigate risks from unsafe displays by designing custom protocols to evaluate the quality and safety of existing displays, establishing procurement guidelines and conducting periodic verification audits to determine compliance. UL can also assist retailers' compliance efforts by providing training to vendors on applicable standards and requirements.

For more information about UL's testing, certification and inspection services for retail displays, contact UL's Furniture Center of Excellence by calling 616-928-0791 or emailing us at furniture@ul.com.