

Design Requirements for Components in Display Cabinets



Overview

In order to align requirements between showcase (wired cabinets) and other commercial displays, new requirements have been added for showcases.

Key Takeaways

Display cabinets must balance material quality, structural integrity, safety, lighting, and industry-specific functionality to ensure durability, aesthetics, and compliance with standards.

Material Selection

Frame Materials: Aluminum Alloy: Lightweight, corrosion-resistant, scratch-resistant, and suitable for high-frequency commercial use; service life 8–10 years. Carbon Steel: Strong load-bearing capacity ($\geq 80\text{kg/m}^2$), suitable for heavy products, but requires rust protection; service life 5–7 years. Solid Wood: Offers aesthetic appeal for cultural or luxury displays; requires moisture-proof treatment; service life 3–5 years.

Glass Types: Ultra-clear tempered glass: Ideal for jewelry or refrigerated displays; temperature resistance -40°C to 280°C . Laminated glass: Recommended for areas near children to prevent injury from breakage. Anti-fog or hydrophilic-coated glass: Used in refrigerated cake or gelato cabinets to prevent condensation and maintain visibility.

Connection and Sealing: Glass-to-frame connections should use food-grade silica gel for refrigerated cabinets to prevent air leakage. Shelves may be tilted ergonomically (e.g., 15° for gelato) to enhance visibility and prevent spillage. **Lighting and Display Considerations** LED lighting: Warm light (around 3000K) is preferred for food displays to avoid melting or discoloration.

Highlighting merchandise: Anti-glare coatings and strategic lighting enhance product visibility, especially for jewelry or luxury items. **Safety and Standards Compliance** UL 970 Standard: Covers retail fixtures, showcases, and temporary displays, including electrified and non-electrified units rated $\leq 600V$ AC. It ensures safety, durability, and performance for dry, damp, or wet locations.

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L 970 combines previous standards (UL 65 and UL 962) into a streamlined framework for modern retail displays. **Load-bearing and structural integrity:** Cabinets must support intended merchandise weight and maintain stability. **Glass safety:** Tempered or laminated glass is required to minimize injury risk in case of breakage.

Maintenance and Usage Guidelines

Cleaning: Use neutral cleaners; avoid abrasive materials like steel wool. **Refrigerated cabinets:** Defrost weekly; maintain frost layer $\leq 5mm$ to ensure efficiency. **Daily checks:** Verify glass sealing by testing gaps with a paper strip; ensure proper lighting and temperature control.

Industry-

Specific Considerations

Food displays: Temperature control, anti-fog glass, and ergonomic shelf design are critical. **Jewelry and luxury items:** Emphasize luster, anti-glare glass, and high-quality materials like hardwoods or metals. **Cultural or fragile items:** Protect against moisture, light, and physical damage; use solid wood or specialized frames.

By carefully selecting materials, ensuring structural integrity, applying appropriate lighting, and adhering to UL 970 standards, display cabinets can achieve optimal functionality, safety, and visual appeal across various retail and commercial applications.

Article Content

LED Screen Cabinet Guide: Types, Materials, and How to Choose

This article draws on engineering experience to analyze the types and selection principles of LED display cabinets from four key dimensions: structure, material, connection design,

UL 970 Retail Fixtures and Merchandise Displays Standard

In order to align requirements between showcase (wired cabinets) and other commercial displays, new requirements have been added for showcases. A few key clauses have been highlighted below to

LED Screen Cabinet: Complete Manufacturing, Material, Design

This comprehensive guide explains everything you need to know about LED screen cabinets, including their components, materials, manufacturing processes, applications, selection

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LED Display Cabinet: Types, Sizes & Selection Guide 2026

This guide comprehensively and in-depth explores the technology, types, advantages, and selection criteria of LED screen cabinet to improve the performance of LED displays.

Understanding LED Screen Cabinet: A Comprehensive Guide

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LED Display Knowledge! Cabinet Selection

In the LED display screen, the cabinet is the core component of its support and protection, and its importance is self-evident. This article will delve into the cabinet design, functions,

Retail Fixtures and Merchandise Displays Reference Guide

Learn how UL 970, the Standard for Safety of Retail Fixtures and Merchandise Displays, provides a streamlined Standard with updated requirements that is inclusive to the innovations of displays over

LED display installation

Comprehensive guide to LED display installation and auxiliary design, detailing cabinet structures, installation methods, power distribution systems, lightning protection, and data cable connections.

How to Design a Modern Custom Display Cabinet

Design a modern custom display cabinet with V-Done's guide. Learn about style, materials, and DIY techniques for a personalized touch.

How to Build a Glass Display Cabinet: A Complete Guide

Learn how to build a glass display cabinet from scratch with our expert guide—covering materials, steps to help you create a showcase.

Cabinet design and EMC

EMC-compliant design and control cabinet configuration For detailed configuration instructions regarding the EMC-compliant design of drives and control cabinet configuration, refer to the "SINAMICS Low

Ultimate Display Cabinets Buying Guide | LuxeDecor

Find the perfect display cabinet with LuxeDecor's buying guide. Explore top brands, materials, storage options, lighting, and maintenance tips to showcase your items in style.

A Practical Guide to Museum Displays

Depending on the items you wish to display and the space available to you, Luminati can design and manufacture an

Display Cabinet Design Ideas

Display Cabinet Design Ideas for Every Space Display cabinets serve as both functional storage and aesthetic enhancements to various spaces, from

Display Cabinets | Classic and modern, with doors | Archiproducts

Choosing a display cabinet should take into account the stylistic language already present in the home or professional space. Traditional options, such as classic-style cabinets, are ideal for those looking

Using Display Cabinets for Interior Design

While display cabinets are easy to buy and set up in your home, there can be a lot of nuances that go into using them correctly. Whether you are doing

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