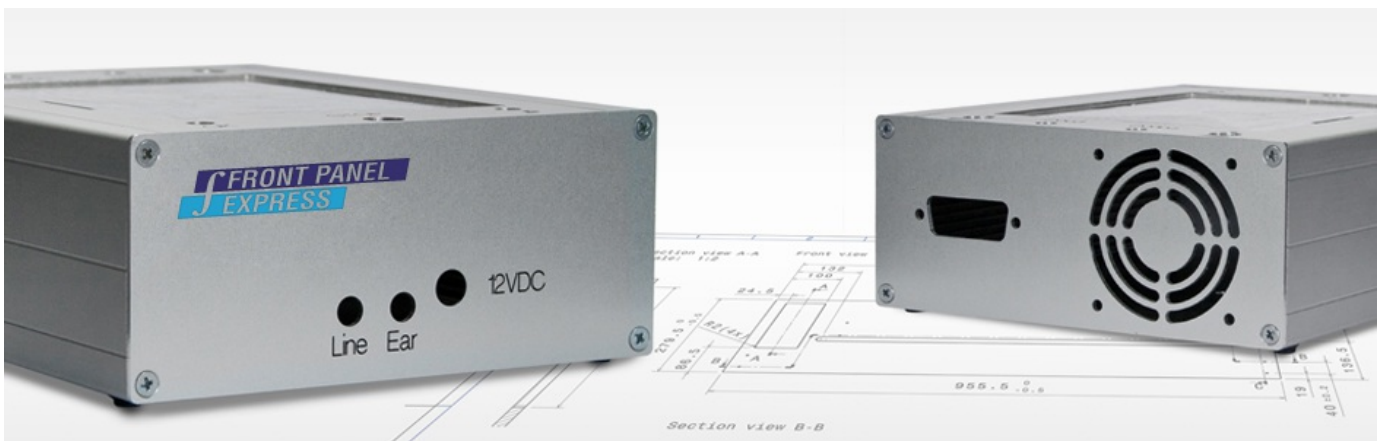


FRONT PANEL EXPRESS



Choosing the Right Material for Your Component Enclosures - Part 1

Thanks to modern technology and understanding of the highly complex nature of today's electronics, finding the right material for your enclosure isn't as easy as installing your equipment in an appropriately-sized metal box. With so many different materials available and sensitive electronics at a premium, you can't afford to make a mistake when choosing your enclosure and front panel material. Here's part 1 of a brief guide to choosing the right material for your component enclosures. Check back next week for part 2!



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brief guide to choosing the right material for your component enclosures. Check back next week for [part 2!](#)

1. Environmental Aspects

Several factors can make a significant impact on the long-term performance of your enclosure. Rust, UV exposure, and airborne particulates can directly impact the durability and performance of your enclosure, so it's important to take into consideration the potential applications of your unit before settling on a material type. For instance, if your component is designed to work outdoors, fiberglass is a good option, though continued exposure to sunlight can warp the chemical fibers. Items for indoor use with limited or zero exposure to moisture should incorporate aluminum.

Durability is also a strong consideration, as the functional elements of the unit must come into play in work environments. Should the enclosure be utilized in a warehouse facility, for instance, it should be able to stand up to an accidental bump from a forklift or other heavy equipment.

2. Aesthetics

Looks are important and never more than when you're selling a product. While many components can stand on their own by function alone, it never hurts to add a touch of professionalism to your product with custom color options, branding, and product identifiers for potential service calls later on. Both metallic and non-metallic materials can be easily emblazoned with your company's logos and fonts along with product names and descriptions as needed.


3. Thermal Transference Capabilities

This may be the most important factor when choosing enclosures for sensitive electrical components. Plastics are excellent insulators, which can keep components warm during operation in cooler exterior temperatures, but if you're concerned about too much heat inside your enclosure, you'll want to consider a metallic material like stainless steel to transfer heat. If that doesn't do the trick, try adding additional ventilation or fans to your design to keep your components operating at the ideal internal temperatures.

4. Price

Budget is always a major concern when producing front panels and custom component enclosures, but building a one-off prototype for your product may help you avoid huge overruns during the production cycle. Lower-cost materials like fiberglass or plastics may save you money upfront, though a lower-grade stainless steel material may help offset costs as well. Front Panel Express has zero batch requirements, allowing you to produce one-off designs for testing and prototyping purposes before you engage in a large-scale run.

Check back next week for part 2 of our series and we'll continue talking about how to choose the right material for your component enclosures and front panels. Until then, be sure to [download Front Panel Designer](#) for free and get an estimate on your custom design today.

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