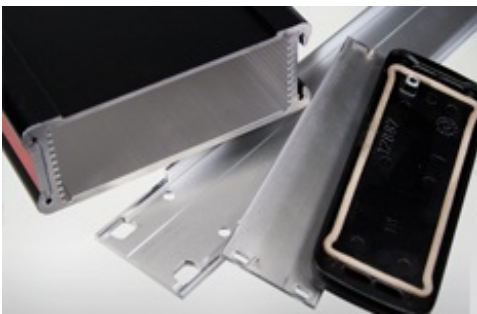


## Choosing the Right Material for Your Component Enclosures - Part 2

Thanks for checking back to our short series on choosing the right material for your component enclosures! This is part 2 of our guide; [part 1 is available here](#). This time, we'll be looking at the strengths and weaknesses of specific materials.



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### Steel

Different variations of steel carry with them different properties, allowing flexibility for customers who require specific capabilities in their designs. Mild steel, type 304, and type 316 are all commonly used steel types in enclosure and front panel production. Mild steel tends to be cheaper, but don't typically receive a corrosion resistance rating and are therefore not suitable for most extended outdoor or high humidity uses. Adding powder coating tends to improve performance.

Stainless steels resist corrosion due to the increased levels of secondary metals such as chromium, nickel,

and molybdenum in its chemical composition. It can also cost up to three times as much as mild steel due to increased cost of nickel.

## Aluminum

Raw and anodized aluminum are both suitable for use in front panels and enclosures due to its lightweight nature and affordability. Anodized aluminum is more durable and aesthetically appealing, making it more scratch resistant than raw aluminum.

## Fiberglass

Fiberglass is one of the most widely used non-metal in the enclosure and front panel industry. It demonstrates a high impact strength and rigidity as well as great chemical resistance, making it ideal for use in industrial, outdoor, or otherwise corrosive environments.


## Polycarbonate

Polycarbonate is a high-end thermoplastic resin that is ideal for environments with a potential for high impact, extreme temperatures, and acidity. It does not perform well in areas with strong organic solvents or strong alkalis.

## Polyester

Polyester is a fairly new material in the electrical enclosure field, therefore making it harder to find at most shops. It's lightweight, durable, and offers outstanding chemical and moisture resistance. Exposure to direct sunlight over a long period of time can cause discoloration, so protected usage in outdoor environments is recommended.

Of course, there are many other materials at your disposal when you choose to partner with Front Panel Express. [Learn more about them here](#) or contact a sales representative for more information, but don't forget to test out your design by downloading Front Panel Designer for free!

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