



Building Enclosures for Solar Energy - The Basics

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Whether you choose metallic materials or thermoplastics, your electrical component enclosure needs the following features:

- Resistance to extreme temperatures, moisture, corrosion, and protection against ice formation on the exterior.
- Type 3R or Type 4X ratings.
- [Built-in grounding rods, lightning arrestors, and surge protectors](#) to guard against lightning strikes.
- Increased accessibility options such as technician canopies, interior print pockets for document storage, and a laptop shelf.
- Locking mechanisms to prevent unauthorized access.

Selecting the Proper Material for Your Enclosure

Metallic Enclosures

Metallic enclosures are best suited for indoor areas or areas with controlled environmental conditions. Corrosion is a factor, as is solar heat gain (except in stainless steel enclosures).

Fiberglass Enclosures

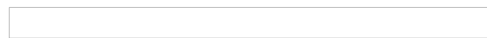
Molded from a polyester resin and reinforced with embedded glass fibers for increased strength, fiberglass is a perfect material for environments with a wide range of weather conditions. However, they are


susceptible to fiberbloom, or [warping and damage to the appearance of the enclosure](#) via prolonged exposure to UV rays.

Polyester and Polycarbonate Enclosures

A great alternative to stainless steel and fiberglass for corrosion-proof performance, polyester and polycarbonate enclosures are both cost-effective and appealing. They demonstrate high impact resistance as well as resistance to moisture.

Next time, we'll talk about the weight considerations and how they may impact your solar project's electrical enclosures. To get started on your own enclosure project, [download Front Panel Designer](#) or [contact Front Panel Express](#) for more information.

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