

PV and PVT PANELS BASED ON ALUMINIUM SUBSTRATE



? What is?

The photovoltaic module (PV Panel) replaces the traditional rear glass with a bare aluminum sheet, creating a lighter and more efficient panel for buildings due to a better heat dissipation. It offers improved performance and lower costs, though some challenges remain for large-scale production due to the bowing effect

On the other hand, PVT panel is a Photovoltaic glass on the front and a backsheet in the rear part where the thermal absorber is glued to avoid overheating of the module and at the same time to take advantage of the thermal energy generated.

🎯 Challenge

Standard solar panels with glass backs are heavy, costly, and less efficient due to overheating.

The main challenge on the PVT could be the direct lamination of the PV module and the roll bond absorber due to the non-flat shape and the presence of the tubes doing the process significantly complicate.

💡 Solution

Our aluminum-backed panels reduce weight and enhance energy output, providing a practical alternative for solar integration in buildings. Also, it offers more aesthetic designs, thanks to the finishing variety of aluminium sheets, facilitating integration in façade.

Solar hybrid photovoltaic-thermal systems (PVT panels) allow developed electricity and heat energy at the same time.

➡ Key Benefits



PV Panel lighter

Lighter than traditional glass-backed panels



Heat dissipation

Improves performance with better heat dissipation



Lower costs

Lower production costs



Solar adoption

Supports solar adoption in building designs

➡ Target Users

- ✓ Solar panel manufacturers
- ✓ Building construction firms
- ✓ Renewable energy integrators
- ✓ Building retrofit specialists, including energy service companies
- ✓ Housing developers

➡ Next Steps

- ✓ Currently these new PV and PVT panels are being tested in three buildings. The experimental plan includes the monitoring of the energy generation, the performance of the technology as well as its constructive integrability in the building and the compatibility with other energy sources of the building.



Asier Sanz
Tecnalia



www.tecnalia.com



asier.sanz@tecnalia.com

Scan
for more
information

