



25% Weight Reduction Compared to Aluminium Frames

Introduction

Lighter frames play a crucial role in optimizing solar frames and enhancing overall solar module performance. Our composite frames are approximately 25% lighter than aluminium, resulting in a lighter mounting system, easier handling during transport and installation, and reduced transportation costs.

Comparison of Composite and Aluminium Frame

According to TÜV, the material density of our GF-PU composite frame is 2.1 g/cm^3 , which is approximately 25% lower than that of aluminium's 2.7 g/cm^3 (National Institute of Standards and Technology, n.d.). The reduced density enables lighter frames without compromising performance.

Reducing frame weight decreases the total system load, thereby minimizing mechanical stress on support structures and mounting components.

The lighter frames are simpler to handle. Facilitating faster, safer, and more efficient operations both in logistics and on-site. This translates into reduced transportation and handling effort.

Lastly, the decreased weight results in lower shipping expenses per unit.

Conclusion

Our GF-PU composite frames are approximately 25% lighter than aluminium, enabling the use of a lighter mounting system, reducing transportation costs, and simplifying handling without compromising performance.

Reference

National Institute of Standards and Technology. (n.d.). Reference tables for sample mounting. <https://www.nist.gov/ncnr/sample-environment/sample-mounting/reference-tables>

TÜV SÜD Certification and Testing (China) Co., Ltd. (2023). Data form for critical components and material information: PUR8020 composite frame used in PV modules (Project No. 70.407.22.692.01, Rev. 00). TÜV SÜD Group.

