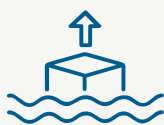




PE–EPS FLOATING PLATFORMS FOR SOLAR PV



Excellent buoyancy
and stability



Lightweight and
high-strength construction

Floating Solar PV (FSPV) plants are well-suited for India, where land is scarce. They deliver higher efficiency through water cooling while conserving water by reducing evaporation. The key challenge lies in the floating platform, which must endure up to 30 years of exposure with high corrosion resistance, load-bearing strength, and ruggedness.

Rotomoulded PE Floating Platforms

Rotomoulding is superior for floating platforms due to its inherent advantages:



Stress-Free Durability

Parts are moulded without pressure or stretching, making them resistant to cracking and long-term damage.



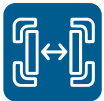
Cost-Effective Customisation

Moulds can be made from inexpensive aluminium or mild steel, allowing easy, tailored designs.



Reliable Integrity

No pinch lines are formed, eliminating weak spots that often cause premature failure in blow moulded parts.



Stronger Corners

Naturally thicker walls at outside corners provide added strength without increasing overall part thickness.



Uniform Strength

Consistent wall thickness and reinforced corners enhance overall product strength and integrity.



Design Flexibility

Complex shapes are easily achieved, giving designers freedom to create optimal racking systems.



Easy Integration

Inserts for securing solar panels can be moulded directly, simplifying assembly compared to blow-moulding.



Superior Robustness

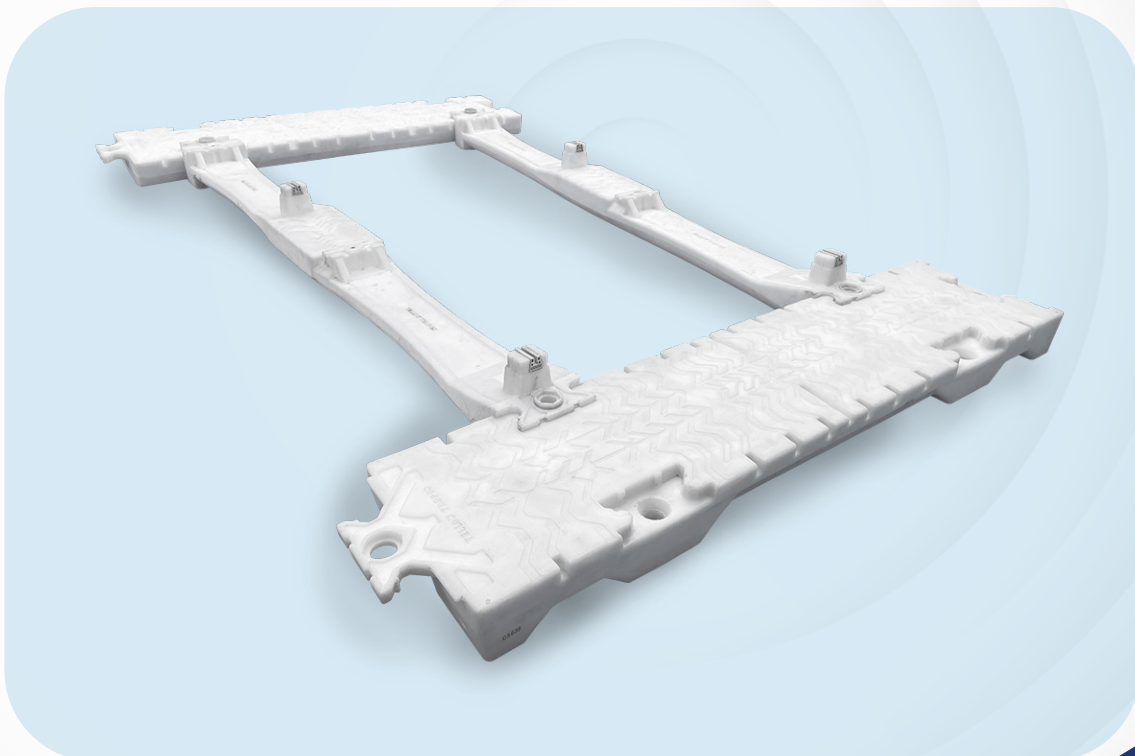
Rotationally moulded parts are inherently stronger, sturdier, and more durable than blow-moulded equivalents.

Rotationally Moulded PE With EPS

K. K. Nag Private Limited is one of the oldest, largest and most respected processors of Expanded Polystyrene (EPS) in the country. It also has a rotomoulding facility that has been producing buoys, floating platforms and various other flotation products for several years. The Company has combined its knowledge of both processes and offers rotomoulded Polyethylene (PE) floating platforms for FSPV plants that are filled with an EPS core that is expanded in-situ within the PE shell, thus filling the empty space completely and obviating the possibility of voids.

EPS in itself is often used for various buoyancy applications but the marriage of PE with EPS becomes a superior option because the sandwich structure increases the rigidity and improves the factor of safety of the floating platform!

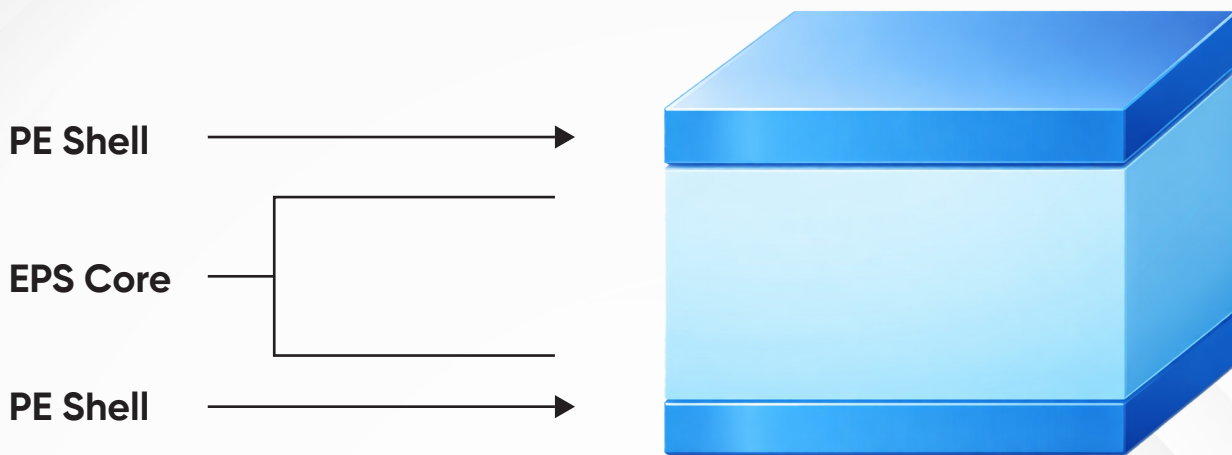
The biggest advantage of the PE-EPS sandwich construction is that if there is mechanical damage to the PE shell, there will still be no ingress of water because the closed cell structure of the EPS foam prevents it from absorbing water and reducing buoyancy.



The Benefit

PE-EPS sandwiched floating platforms are virtually unsinkable. So all the advantages of floating solar plants are realised while still having the confidence that the floating platform will perform for longer than the life of the solar plant itself!

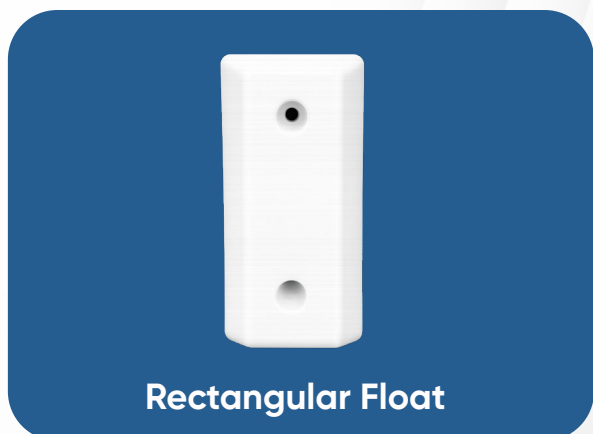
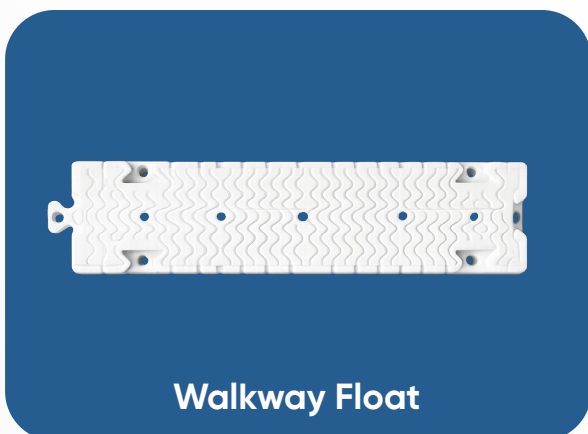
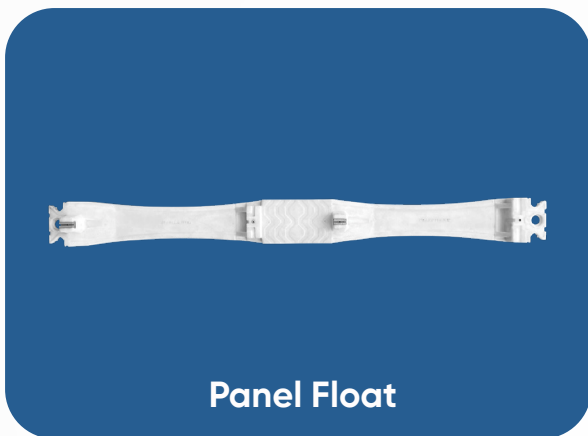
The thickness of the PE shell can be reduced due to the support of the EPS closed cell foam core that is expanded in the hollow PE structure and that gives uniform, zero-gap support.



Structural Properties

Property	Unit	PE	EPS
Density	kg/m ³	910-940	20
Tensile Strength at Yield	kg/cm ²	160-180	2
Elongation at Yield	%	8-16	-
Notched Izode Impact Strength	Kj/m ²	8-10	-
Stress at 10% Compression	Kg/cm ²	-	1

The pictures below are of real life floats that were manufactured by us for various customers with PE shells and EPS foam cores for improved stiffness and water resistance in case of an accidental puncture or rupture.



Why Choose K. K. Nag for Your Rotomoulding Solutions



In-House Design and Engineering

in managing wall thickness, draft angles and structural design for high-quality rotomoulded components.



Advanced Moulding

Capability to mould large, complex, single-piece components with multi-layer construction.



Rapid Tool Development

Efficient development of fabricated and cast aluminium moulds to support faster project execution.



Seamless Transition from Pilot to Production

End-to-end support from concept and prototyping to full-scale manufacturing under one roof.

Why It Matters

- Accelerated Time-to-Market
- Lower Development Costs
- Improved Product Performance
- Aligned Technical Collaboration
- First Time Right Manufacturing
- Scalable Local Production



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