



Anchoring innovative floating applications is our passion!

SEAFLEX is the flexible mooring solution that has been securing floating applications world-wide since 1981. The system can be used regardless of water depth, while handling large water level variations, strong currents and storm conditions.

We are thrilled to follow the development in the groundbreaking floating renewable energy sector. Anchoring such innovative applications couldn't be a better fit for us, since achieving longevity while taking environmental responsibility have always been cornerstones in the creation and development of the SEAFLEX mooring system.



GEUMJEON, KOREA, Nemoeng Co.

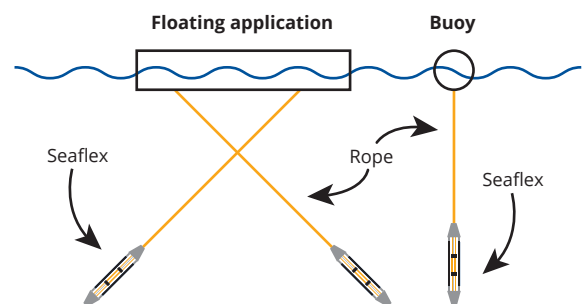
This pictured 2MW floating solar power plant produces electricity that can be used by 660 households at the same time. SEAFLEX is used to secure both 110 x 100 m platforms.

KERALA, INDIA

Adtech Systems Limited

Shown above is a 0.5 MW floating solar park in India, the SEAFLEX holding it in place manages their 20+ meter water level variation.

How Seaflex mooring works



SEAFLEX is used whenever there is a need to anchor something floating, such as commercial marinas, wave attenuators, floating solar parks or wave energy converters. The system expands and retracts with each tide and wave, taking on and dampening the forces year after year.

Contact us
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See more at
www.seaflex.net

Floating solar industry turns to Seaflex for its mooring expertise

Many investors, project managers, engineers, and product manufacturers are concerned with the longevity of individual components of floating PV systems. The LCOE generally revolves around a lifespan of 20-25 years for such floating PV projects. How does Seaflex tackle the challenge of longevity and make ownership cost effective?

Our approach to a 20-year-plus longevity for our mooring systems comes from several factors. First being that we have a 20-year warranty on our products and mooring solutions. We can offer this because we have over 30 years' experience designing and building marinas using the Seaflex mooring systems. We currently have Seaflex in marinas that are over 30 years old, so we know from real-life experience that our products, materials and designs last a long time.

We have adapted our range of Seaflex products and mooring designs to be utilised in the floating solar segment. We have numerous different mooring designs and products that can handle a wide variety of environmental factors such as water levels from zero meters to hundreds of meters deep. We also have existing floating solar projects that have survived typhoons without failure. So, we can say from real-world experience that Seaflex, installed on floating solar applications, can also withstand extreme wind conditions as well. Additionally, our mooring products are compatible with every floating solar panel float, which allows for seamless integration and helps to increase the lifespan of the floats and solar panels.

Since Seaflex products only require routine inspections and do not require maintenance, we provide a much lower cost of ownership over the lifespan of our applications.

What should designers and engineers be careful to consider when looking at mooring solutions for floating solar applications?

One misconception that many designers and engineers have when considering the mooring aspect of the floating solar application is the correlation between the size (in megawatts) of the system and how much in terms of cost and quantity of mooring is needed. Unfortunately, the relationship is not linear and is somewhat complex to describe.

There are many factors which can change the quantity, composition of materials and design of the mooring system. For example, different environmental conditions like water levels and wind from two identical 2.5 MW facilities can have very different designs and costs associated with the mooring. Another factor can be the proximity of the solar panels and floats to the shores of the water source. A system located in the middle of a body of water is moored differently than one where all four sides are close to the shores.

Factors such as these are why we caution designers and engineers not to guess about the mooring solution based on sizes or designs of other seemingly similar floating solar applications.

Why is using Seaflex versus other mooring technologies beneficial for floating solar applications?

The use of metal cable and chain in mooring floating solar projects is one type of solution that comes with many drawbacks and potential devastating failures. We have seen such real-life failures and therefore can comment on the design and material inadequacies.

Seaflex offers an elastic solution that unlike metal cable and chain provides a dampening effect that neutralises shocks (or peak load effect) to both the floats and solar panels from wave and wind forces. This is beneficial from both a safety and durability standpoint in that the possibility of potential damage over a 20-year period is minimised, saving material replacement and labour costs. It should also be said that the usage of piles as a mooring solution has the same risks as cables in that shocks and peak loads are not at all dampened and therefore can also create a total failure in storm conditions.

Additionally, Seaflex products utilise very little metal and even offer a titanium hybrid option to drastically limit corrosion and material degradation. Another benefit of our elastic mooring solution is that Seaflex can handle water level variations from very small to very large (+50 meters!) This would not be possible using the metal cable, chain or pile solutions.

DONGMAK
Korea

