

## SEA STONE - SUSTAINABLE MATERIAL USING WASTED SEASHELLS FROM SEAFOOD AND AQUACULTURE INDUSTRIES IN SOUTH KOREA

The [Newtab-22 Material-led Design Studio](#) company based in Seoul (South Korea) develops a sustainable material that resembles concrete using the waste of seashells salvaged from the seafood and aquaculture industries. Newtab-22 is looking for alternatives from natural materials, free of toxics and with properties that benefit the environment.

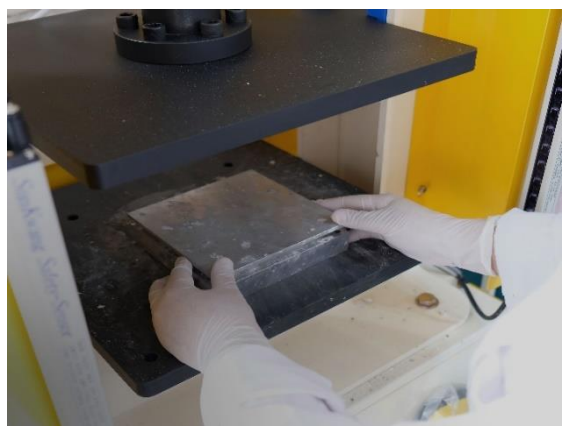
Named *Sea Stone*, the material is made by grinding down shells that are destined for landfill before combining them with natural, non-toxic binders. The material is currently being developed for commercial purposes and has so far been used to make products such as decorative tiles, table tops, plinths and vases.

The new material is the result of the research started in 2019 by the designers Jihee Moon and Hyein Choi in the framework of a design products course at the Royal College of Art in London (United Kingdom). Coming back to Seoul the two designers founded the Newtab-22 company to continue developing the project, contributing to solve the impacting issue of seafood waste in their country.

In fact, the *Sea Stone* evolved from Newtab-22's aspiration to help alleviate the world's impacting problem of waste in the seafood and aquaculture industries by using discarded seashells to create a new environmentally and economically sustainable material. The founders of the Newtab-22 company underline that millions of tons of seafood are globally consumed in the world and seven million tons of seashells discarded every year inevitably end up in landfills or on beaches. They are not biodegradable and have a very high disposal cost. The discarded seashells, which are uncleaned or rotten piling up near the beaches for a long time, are causing odour pollution and polluting the surrounding land in the long run.

Seashells are rich in calcium carbonate, otherwise known as limestone, which is used to make cement, and according to the Newtab-22 company, the *Sea Stone* material could become a sustainable alternative to concrete in the design of small-scale products.

The company collects discarded seashells from seafood industries, and then shells are processed in the company's factory. The process of making *Sea Stone* involves grinding down the shells and mixing them with mineral, sand and



various natural binders, under the right proportion, following a recipe which has been developed for more than a year with hundreds of tests.

Newtab-22 has experimented with an array of natural binders including sugar and agar, and it is now reliant on two undisclosed and patent-pending sources. Ultimately, those mixtures can maximize the benefit of the materials, as well as textures and hardness.

The mixture made is then left to solidify into concrete-like pieces. The method is currently carried out manually to avoid the use of heat, electricity and chemical treatments and to ensure the process is as sustainable and affordable as possible. It results in variations in the sizes, textures and colors of the shell fragments and means that each piece of *Sea Stone* is unique. Differences can also occur by altering the quantities of shells and binders, or by adding colored dyes.

The result of this process is a sustainable material which is composed of natural, non-toxic ingredients and binders, featuring a solid, hardness and aesthetic texture like a stone.

The Newtab-22 company currently develops the *Sea Stone* material for commercial purposes, manufacturing small-sized decorative tiles, table tops, interior products, decorative wall panels and a variety of home art items. The choice of the company also for the future is to continue to adopt a small-scale production process to avoid the use of heat, electricity and chemical treatments and ensure the process is as sustainable and affordable as possible.

The *Sea Stone* innovative material has been successfully presented in [prestigious international exhibitions](#). On the Newtab-22 website it is also possible to learn more about this high-quality product through the [articles published by various international specialized magazines](#).

The works of the Newtab-22 company have attracted international attention for the high aesthetic quality of the products offered on the market and for the sustainable methods adopted. They certainly also contribute to stimulating research and circular economy practices that allow in the future to recycle the large amounts of shells produced by the fishing and aquaculture industry. Newtab-22 demonstrates that small companies based in coastal areas and managed by highly qualified innovative professionals, with the support of universities and specialized centers can contribute to solving global problems while generating benefits for the environment and the local economy.

### To know more

[Newtab-22.com website](#)

[Sea Stone – Press release](#)

[Sea Stone in Dezeen Awards](#)



[Sea Stone - newtab-22 in Dutch Design Week](#)

[Sea Stone in iom3.org](#)

[Sea Stone - The Index Project](#)

[Sea Stone in gp-award.com](#)

[Sea Stone in frameweb.com](#)

[Sea Stone in tdainteriors.com](#)

[Sea Stone in buildinganddecor.co.za](#)

