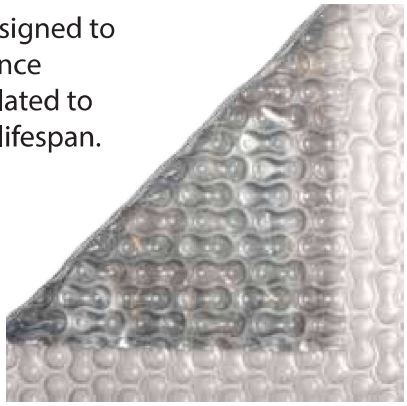
Gen2

Sol+Guard™

A new generation of pool cover - but how does it compare?

Gen2 is the latest innovation in GeoBubble™ swimming pool covers, designed to save even more energy and resources. Incorporating graphene to enhance strength and thermal performance, Gen2 pool covers have been formulated to use 20% less plastic whilst retaining the renowned GeoBubble™ 8-year lifespan.



Sol+Guard™ Gen2 is the first of the new product range, which like its predecessor, works to maximise the heat of your swimming pool using free solar energy from the sun. Sol+Guard™ Gen2 pool covers can reduce heating costs by up to 80% and increase the temperature of a pool by up to 8°C.

Sol+Guard™ Gen2 is just as tough and hardwearing as ever, thanks to the inclusion of our groundbreaking graphene additive formulated in association with university academics and our trusted suppliers. Graphene enhances the mechanical properties of materials and as such Gen2 pool covers have the equivalent strength of a 500 micron cover but using 20% less plastic which significantly reduces the carbon footprint of the material.

All the benefits of Sol+Guard™

Increase pool temperature by up to 8°C ♦ Reduce energy consumption by over 70%
Reduce chemical consumption by up to 40% ♦ Eliminate water evaporation by 98%+
Reduce debris contamination ♦ With GeoBubble™ Technology

Plus...

For Pool Owners

- Higher Puncture Resistance (51%)
- Enhanced Tear Resistance (24%)
- Improved Thermal Performance
- Lighter and easier to handle
- Improved Flexibility
- Strength of a 500 Micron Cover
- 20% Less Polymer Used
- 8-Year Expected Lifespan

For Fabricators & Distributors

- 20% Smaller Packing Size (vs. 500 micron cover)
- 6% Smaller Packing Size (vs. 400 micron cover)
- Lightweight & Durable
- Less Prone to Fold Marks
- Stronger Seals Possible
- Lower Carbon Footprint
- Reduced Water Depletion

Pool testing and thermal performance

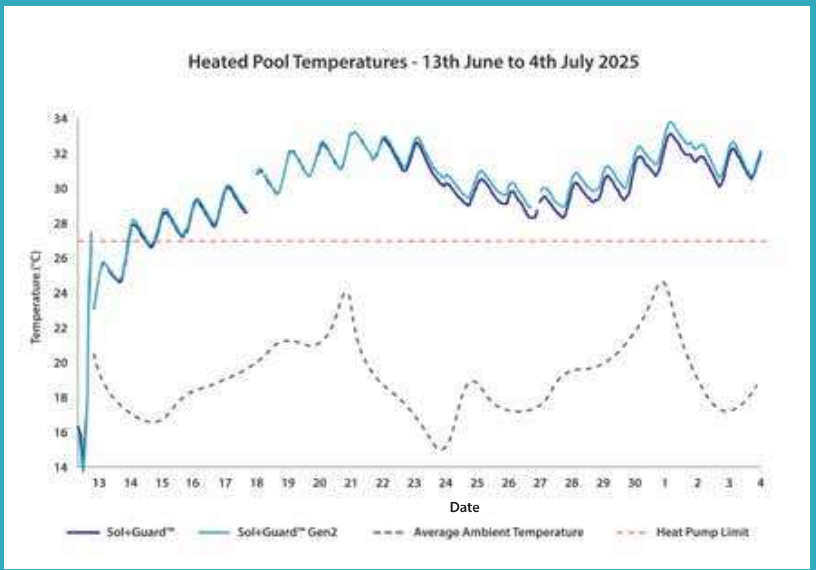
Gen2 product testing and validation took place during June and July 2025 at GeoBubble™ HQ using our bespoke testing facility. In the south-east of the UK in we have an array five identical testing pools measuring 8m x 4m with a depth of 1.3m holding 41,600L (11,000 US gallons) representative of the average sized domestic swimming pool. Pools 2 and 4 have heat pumps on them which can be set to heat the pool to a given temperature, for this experiment pool 2 was coved by Sol+GuardTM 500 grade and pool 4 was covered by Sol+Guard™ Gen 2 and the heat pumps were set to 28ºC (82.4ºF).

Both pools were containing array of six type-T thermocouples that automatically log temperature data which is monitored and analysed by our unique LabViewTM program, designed by GeoBubble™ engineers in close collaboration with experts at the university of Surrey. Each pool has a 0.75kWh filtration pump that run between 07:00 and 21:00hrs. Pool water samples were taken three times weekly to ensure pH, free chlorine level and combined chlorine concentration were staying within acceptable levels. Heat pump energy readings were taken twice daily to monitor the consumption of energy.

Temperature gain and heat retention

Over the 23 days of testing, the pool covered by Sol+Guard™ Gen 2 reached a maximum temperature of 33.7°C after a long spell of warm and sunny weather, a total gain of 14°C. Importantly both pools achieved a daily high of 28°C after just 2 days of being covered, a temperature increase of 5°C. After only 4 days both pools maintained a nighttime low above the heat pump set temperature, which was maintained for the duration of the test period.

During a cooler spell after 10 days of testing the pool temperatures dropped slightly. During this time the Sol+Guard ™ Gen2 cover helped its pool retain more heat before rising steadily again as the warmer weather returned for the remainder of the testing period. As a result ,the pool covered by Sol+Guard™ Gen2 was almost 1°C warmer on average for the remainder of the test.



Energy Savings

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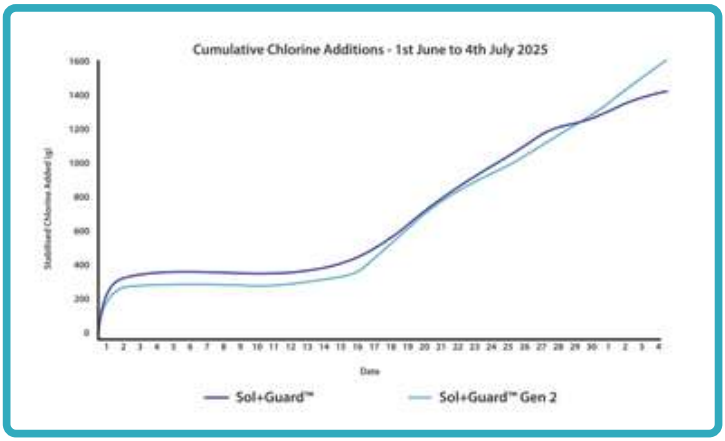
Chemical Consumption

Over the duration of the 23 day experiment It was found that the chlorine consumption of both pools was found to be nearly identical. Sol+Guard™ Gen2 has the potential to reduce the chemicals required to maintain a clean pool by up to 40%



Mechanical Properties

The mechanical properties of Sol+Guard™ Gen2 were determined using a calibrated testing equipment in collaboration with a leading UK university. Samples were prepared in accordance with internationally recognised standards and data on force and displacement gathered to determine tensile, tear and impact strength.

Tensile strength

The tensile modulus (the measure of a material's ability to resist deformation) for Sol+Guard™ Gen2 was found to be near identical to that of conventional 500 micron pool cover, whilst the was the tensile strength at yield (the amount of force absorbed by a material before it is broken) showed an improvement. This means that Sol+Guard™ Gen2, which uses 20% less polymer during production, is as tough and resilient when being hauled on and off a pool as a heavier pool cover thanks to its improved material formulation and inclusion of graphene.

Tear strength

Sol+Guard™ Gen2 was found to have an improved tear force and ultimate tear strength (the measures of a materials ability to resist tear propagation) than a 500 micron pool cover. This means that the graphene enhanced Gen 2 Sol+Guard™ is more flexible and resistant to damage from tearing from daily use.

Impact Strength

Sol+Guard™ Gen2 exhibits considerably improved impact failure energy (the measure of how much energy a material can absorb before breaking) and was found to withstand over 50% more impact energy before being damaged, helping to better protect the cover from accidental knocks and falling objects during its life.

	Sol+Guard	Sol+Guard Gen2	GeoBubble™ Light Blue
Tensile Strength at Yield	7.7 MPa	8.2 MPa	4.7 MPa
Tensile Modulus	312.0 MPa	310.2 MPa	288.5 MPa
Tear Force	48.0 N	59.5 N	46.2 N
Ultimate Tear Strength	2.1 Nmm^{-1}	3.3 Nmm^{-1}	2.6 Nmm^{-1}
Dart Impact Failure Energy	3.9 J	6.0 J	3.3 J

Summary

Sol+Guard™ Gen2 pool covers are graphene enhanced to provide outstanding mechanical properties, equivalent to or exceeding those of existing 500 micron pool covers. Commitment to continuous product improvement and collaboration with leading universities has allowed for the development of next generation of GeoBubble™ pool cover. Consuming 20% fewer plastic materials, Gen2 continues to offer exceptional performance and is warrantied to last 8 years.

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GeoBubble™