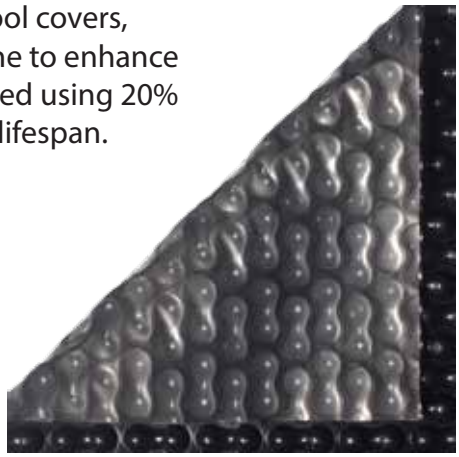
Gen2

EnergyGuard™

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Next generation performance. Proven results.

EnergyGuard™ 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 using 20% less polymer while retaining the renowned GeoBubble™ 8-year expected lifespan.



Like its predecessor, EnergyGuard™ Gen2 is engineered to minimise heat loss, helping pool owners reduce heating costs by retaining more of the energy already in the water. By reducing evaporation and improving overnight insulation, EnergyGuard™ Gen2 helps maintain comfortable swimming temperatures whilst lowering energy consumption and operating costs.

All the benefits of EnergyGuard™ Selective Transmission

Award-winning material ♦ Algae Inhibition ♦ Increase pool temperature by up to 7°C
Reduce energy consumption by up to 60% ♦ Reduce chemical consumption by up to 60%
Can be used as both a summer and winter cover ♦ 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 Pool 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

Heated Pool Test

The temperature and heat pump energy consumption of two identical outdoor heated pools was monitored over the course of 50 days. The purpose of this test was to determine the impact of covering a pool with EnergyGuard™ Gen2 vs the original EnergyGuard™ 500 micron material. The test was commissioned to validate the thermal performance, heat retention and consequent energy saving capabilities of EnergyGuard™ Gen2 prior to product launch.

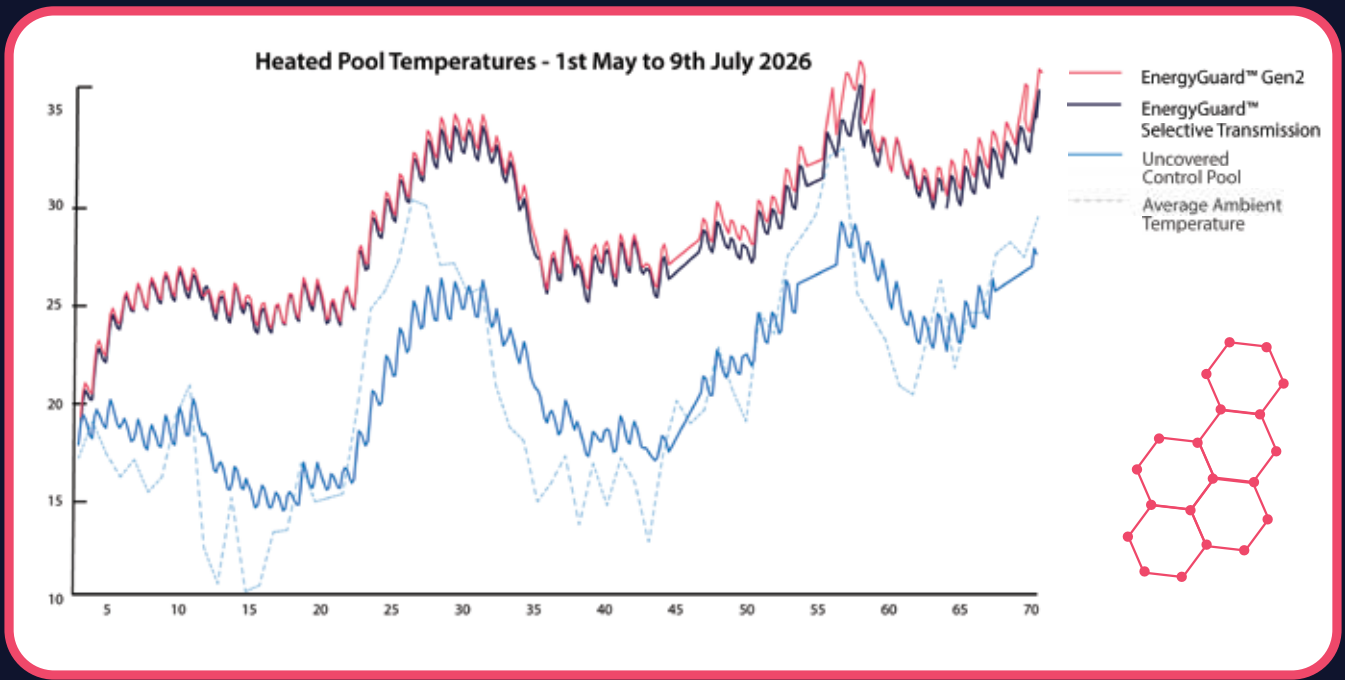
Temperature and Energy Consumption Comparison

Having previously been uncovered, the heated pools began the test at 25°C. After just 7 days covered with EnergyGuard™ pool covers, both pools achieved daily highs above 34°C — an impressive 9°C increase. Once covered, both pools reached the heat pump thermostat target temperature of 28°C within just 2 days and remained above this temperature for two consecutive weeks. During this initial period of warm, sunny weather, each heat pump consumed only 10 kWh, equivalent to just €3.00* in electricity, while maintaining pool temperatures an average of 5°C above the ambient air temperature.

A cooler period followed, with average maximum air temperatures falling to 17°C over 12 days. During this time, the heat pumps assisted in maintaining daily pool temperatures of 28°C. Both pools maintained almost identical temperatures, with similar energy consumption: the pool covered with EnergyGuard™ Gen2 consumed 21 kWh, compared with 23 kWh for the original EnergyGuard™ cover. This demonstrates that both materials provide comparable solar heating efficiency and heat retention, with EnergyGuard™ Gen2 offering a marginal improvement in energy efficiency.



A further three-week period of warmer weather followed, interrupted only by a brief cool spell. During this heatwave, the pool covered with EnergyGuard™ Gen2 reached a maximum temperature of 36.1°C after 14 consecutive days of rising ambient temperatures, which peaked at 34°C. This represented a total temperature gain of 11.1°C from the beginning of the test. At this peak, the EnergyGuard™ Gen2 covered pool was almost 1°C warmer than the pool covered with the original 500 micron EnergyGuard™ material.



Throughout the test, the temperatures of both heated pools remained closely comparable. However, the Gen2 covered pool was frequently warmer due to improved overnight heat retention, better performance during colder periods, and enhanced solar energy transmission during warm, sunny conditions. Both covered pools consistently remained warmer than the ambient air temperature, and even on the coldest days were maintained at 10°C above air temperature, ensuring a comfortable swimming environment throughout the pool season.

Despite an extended period of mild and damp weather at the start of the test, both covered pools required minimal energy to maintain a comfortable swimming temperature. Over the full test period, the pool covered with EnergyGuard™ 500 micron consumed 179.7 kWh, while the EnergyGuard™ Gen2 covered pool consumed just 163.8 kWh — almost 10% less energy while maintaining an average pool temperature 1°C warmer. When projected across a 180-day pool season, heating a pool covered with EnergyGuard™ Gen2 could cost the average pool owner as little as €180.



Mechanical Properties

The mechanical properties of EnergyGuard™ Gen2 were evaluated using calibrated testing equipment in collaboration with a leading UK university. Samples were prepared in accordance with internationally recognised standards to assess tensile, tear and impact performance.

Tensile & Tear Strength

Testing showed that EnergyGuard™ Gen2 has a tensile modulus comparable to a conventional 500 micron pool cover, while delivering improved tensile strength at yield, tear force and ultimate tear strength. Despite using 20% less polymer, the graphene-enhanced material matches or exceeds the durability of a conventional cover, providing excellent resistance to deformation, tearing and the demands of everyday use.

Impact Strength

EnergyGuard™ 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.

	EnergyGuard Selective Transmission	Gen2 EnergyGuard	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

Unheated Pool Test

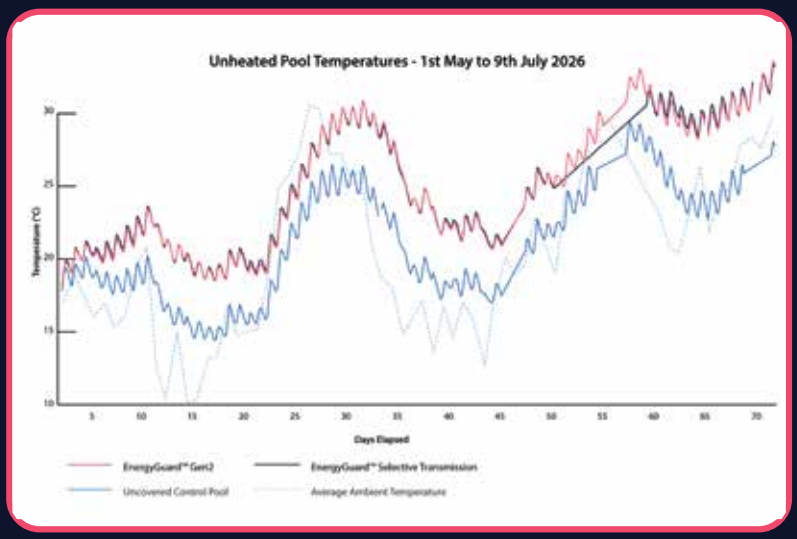
The temperature of three identical outdoor unheated pools was monitored over a 70-day period to compare the performance of EnergyGuard™ Gen2, original EnergyGuard™ 500 micron and an uncovered pool. The trial was commissioned to validate the solar heating and heat retention performance of EnergyGuard™ Gen2 prior to product launch.

Temperature Comparison

Starting at 18°C, the three previously uncovered pools were monitored under identical outdoor conditions. After just 9 days, the two pools covered with EnergyGuard™ materials reached daily highs of 23.5°C, a gain of 5.5°C. This was 4°C warmer than the uncovered pool, achieved without any additional heating.

The following 11 days brought cooler weather, with average daytime highs of just 15°C. Despite these conditions, the covered pools remained an average of 5°C warmer than the ambient air temperature and 4°C warmer than the uncovered pool.

A subsequent 10-day spell of increasingly warm weather saw air temperatures rise above 31°C. During this period, both covered pools reached maximum daily temperatures of 30.7°C and consistently remained around 4°C warmer than the uncovered pool, with no measurable difference between the Gen2 and 500 micron materials.



This was followed by 12 days of unsettled weather, with average daytime highs of 17°C and 46.7 mm of rainfall. Although all three pools cooled by around 10°C, the covered pools continued to perform well, remaining on average 5°C warmer than the air temperature and 4°C warmer than the uncovered pool.

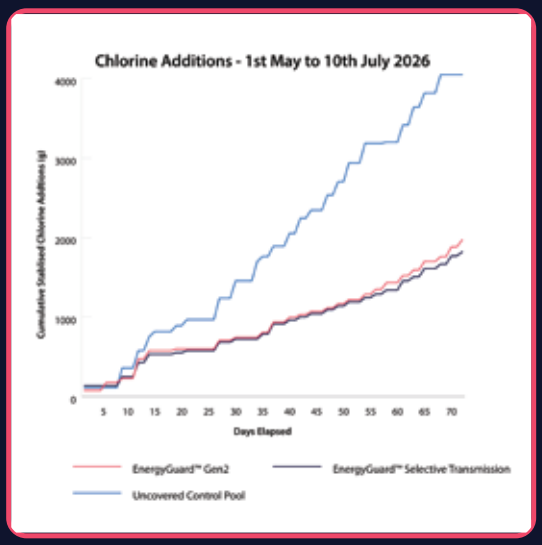
The final phase of the trial saw an extended period of exceptionally warm, dry weather, interrupted only by a brief five-day cooler spell with daytime highs of 21°C and 10 mm of rainfall. During the warmest conditions, both covered pools reached maximum temperatures of 33.5°C, exceeding the maximum air temperature by 3°C and the uncovered pool by 5.5°C. During the cooler interval, the EnergyGuard™ Gen2 covered pool cooled by just 3.5°C, compared with a 5°C drop in the uncovered pool, demonstrating the insulating benefits of the cover.

Over the full 70-day trial, EnergyGuard™ Gen2 and the original 500 micron material delivered almost identical performance for both solar heating and heat retention. Under the same ambient conditions, the covered pools consistently remained 4–5°C warmer than the uncovered pool and achieved a maximum temperature increase of 14°C from the start of the test. While all pools responded to changing weather conditions, the EnergyGuard™ covered pools retained significantly more heat during cooler periods and consistently outperformed the uncovered pool.

Chemical Consumption Comparison

In the 70 days of the test the uncovered pool required the addition of 4092g of stabilised chlorine to maintain a chemically balanced and safe pool environment. The pools covered with EnergyGuard™ Gen2 and original EnergyGuard™ required just 1970g and 1820g respectively, less than half the amount required for the uncovered pool.

Over the course of a 180 day pool season this represents a saving of almost 5.5kg of chlorine, costing approximately €33*2. Over its 8-year expected lifespan, an EnergyGuard™ Gen2 cover could save the average pool owner over €260 in chemicals alone.



Summary

Comprehensive laboratory testing and extended outdoor pool trials demonstrate that EnergyGuard™ Gen2 delivers the trusted performance of the original EnergyGuard™ material while using 20% less polymer. The graphene-enhanced formulation maintains the renowned GeoBubble™ 8-year expected lifespan, whilst providing improved mechanical performance and enhanced thermal efficiency.

Across both heated and unheated pool trials, EnergyGuard™ Gen2 consistently retained heat, reduced energy consumption and maintained warmer water temperatures under a wide range of weather conditions. Compared with the original 500 micron material, it consumed almost 10% less heating energy while maintaining an average pool temperature 1°C higher.

Combining improved durability with lower material usage and measurable energy savings, EnergyGuard™ Gen2 represents the next generation of GeoBubble™ technology—delivering tangible benefits for pool owners, fabricators and distributors without compromising performance.

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GeoBubble™