



PGD

PGD SOFT ARMOR SOLUTIONS



Long-term stability and performance in PGD soft armor



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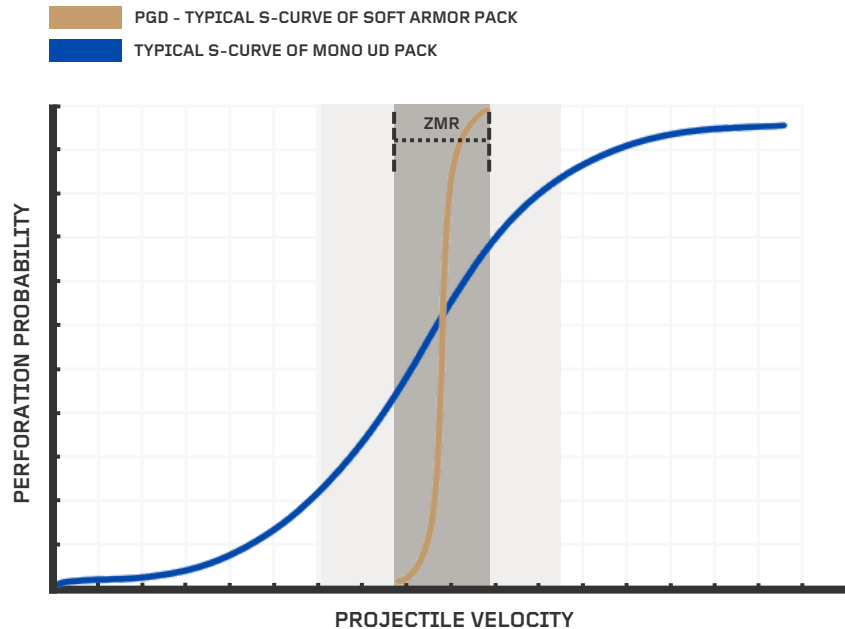
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ZONE OF MIXED RESULTS

Our PGD soft armor are tumbling-stable featuring a low Zone of Mixed Results (ZMR).



A steep S-curve on a ballistic performance graph is one of the clearest indicators of armor stability. It shows that the soft armor maintains its protective capability consistently across different impact velocities, without large fluctuations in performance.

This consistency is directly tied to the Zone of Mixed Results (ZMR). The ZMR represents the range of velocities where test results vary - some rounds are stopped while others penetrate. In other words, it is the “grey zone” between absolute protection and failure. The wider the ZMR, the greater the uncertainty. A narrow ZMR, on the other hand, means the vest delivers predictable, repeatable protection, giving the wearer confidence that the armor will perform as expected in real-world conditions.

The steepness of the S-curve determines how narrow the ZMR is. A steep curve and low ZMR reflect armor that transitions rapidly from no penetrations to complete penetrations, leaving almost no room for uncertainty. This makes the armor far more reliable and trustworthy over time, especially after demanding conditioning tests such as NIJ tumbling, heat, and humidity exposure.

Poorly stabilized polyethylene solutions tend to develop flatter S-curves after tumbling, widening the ZMR significantly. This results in a higher probability of unexpected failures, even within the vest's warranty period.

By contrast, PGD's soft armor solutions are designed with carefully engineered constructions to preserve stability. The result is a steep post-tumbling S-curve with a very low ZMR, confirming that the armor's protection does not collapse under long-term stress.





SUPPLY CHAIN

Built on a stable supply chain using exclusively EU-sourced materials, PGD can ensure high quality and reliability.

For professional end users, the quality of soft armor isn't just about the materials themselves. It's also about how consistently those materials can be sourced and delivered.

A ballistic vest is only as reliable as the chain of suppliers behind it. If materials vary from batch to batch, or if a manufacturer is forced to substitute due to shortages, the result can be inconsistent performance, longer lead times, or even gaps in protection.

This is why PGD has chosen to build its armor on a stable, EU-based supply chain. By sourcing exclusively within Europe, we remove the risks that come with overseas dependencies, fluctuating import policies, or sudden shortages in global shipping. Every component comes from established partners who are bound by the same strict European regulations for quality, safety, and sustainability.

A stable supply chain also means traceability. PGD can track every single batch of material used in ballistic vests, ensuring that no compromise is made in the protection you rely on. For end users, this translates into body armor that performs the same way every time - whether the vest is brand new or delivered years later under a multi-year procurement contract.

The advantages also extend to logistics and operational readiness. Because all sourcing and production are within the EU, PGD can guarantee faster and more secure delivery, even in times of global disruption. Law enforcement and military agencies don't have to worry about sudden delays caused by overseas shipping or geopolitical instability.

In short, a stable EU supply chain isn't just a production choice - it is a guarantee of quality, consistency, and operational reliability. It ensures that PGD body armor performs predictably, that agencies can plan procurement with confidence, and that users in the field can trust their vest to deliver uncompromised protection, every single day.





HIGH QUALITY MATERIALS

We use only premium ballistic materials, carefully selected for their proven strength and long-term stability.



100 % recyclable

At PGD, sustainability goes beyond the vest itself. PGD's soft armor models are sustainable solutions. We strive to reuse and recycle at every stage of production - from packaging materials to spare ballistic fabrics. Nothing goes to waste: leftover aramid sheets are repurposed into testing, prototypes, or new products, while packaging is recycled to minimize our footprint.

By integrating recycling and reuse into every part of our workflow, we ensure that our commitment to protection also extends to protecting the environment.

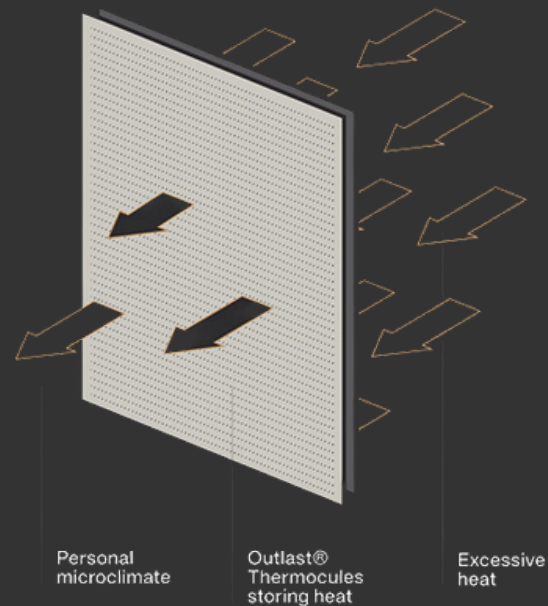


OEKO-TEX® certified materials

Our PGD soft armor solutions are made with OEKO-TEX® certified materials, which means every textile component has been independently tested to meet strict standards for safety and sustainability. This certification ensures that the materials are free from harmful substances and produced with respect for both the environment and human health.

For the end user, it provides an extra layer of assurance. Not only is the body armor built to protect lives in the field, but it is also manufactured responsibly, supporting a safer production process and a more sustainable future.

TECHNOLOGIES



1

Outlast® PCM-technology

PCM is short for Phase Change Material. The technology is integrated into to regulate temperature, providing enhanced comfort by absorbing, storing, and releasing heat to maintain a consistent microclimate within the body armor. Conventional mesh or sweat-absorbing materials normally help dissipate heat but do not provide warmth when you're cold. By using this technology, we make sure that you keep your body at just the right temperature.

2

Ultrasonic sealing technology

We use an advanced ultrasonic sealing technology for sealing all our soft armor panels in a water-resistant TPU cover. This method ensures a completely water-repellent and UV-resistant barrier, protecting the ballistic material from any liquid or sun exposure, thereby preserving the protective capabilities. We can offer up to 10 year warranty.

3

Advanced testing protocols

At PGD, our solutions is validated through advanced testing protocols that go beyond NIJ requirements. Our vests undergo tumbling stability testing to simulate years of wear and ensure performance remains consistent over time. We also submit our products to independent laboratories and law enforcement agencies for external verification. These procedures guarantee that PGD body armor is not only compliant on paper but proven in practice.

MATERIALS

The core of PGD SOFT ARMOR

PGD's soft armor solutions are built on advanced soft armor technologies developed to deliver long-term ballistic stability even under the harshest environmental conditions.



Extreme resistance to preconditioning protocols

Soft armor performance can change after exposure to heat, cold, or humidity. Our materials are engineered to resist these effects and therefore maintain consistent ballistic integrity even after NIJ preconditioning and tumbling tests. This ensures that the vest performs predictably in real-world use, and not just under lab conditions.



Thermoset resin system

PGD's thermoset resin system remains stable under both high- and low-temperature conditioning. This ensures that fibers retain their structural strength and adhesive integrity, preventing softening or delamination. The result is armor that stays reliable in arctic cold, desert heat, and everything in between.



Excellent water and oil repellency

Field conditions are unpredictable. Exposure to rain, sweat, and contaminants is inevitable. Our materials incorporate advanced repellency treatments that protect ballistic fibers from moisture and oil absorption, preserving performance and extending the service life of the armor.



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