CoreMatrix™ Technology enables advanced solutions for ballistic hazards
DuPont provides innovative protection solutions

For more than 50 years, DuPont has been helping to protect military, law enforcement and global security professionals

Our innovative solutions provide proven performance against a range of ballistic threats

- DuPont™ Kevlar® for ballistic vests and shields
- DuPont™ Tensylon® for hard armor applications
DuPont has a long history of protecting those who protect us

Now, we are adding CoreMatrix™ Technology to our family of protection solutions, enabling the most advanced, flexible ballistic solutions possible.

Wherever service takes you, our innovative hazard gear is designed to provide comfortable protection and get you home safely.
What is CoreMatrix™ Technology?

- Globally patented technology, available exclusively from DuPont
- Uses a needle punching technology in the Z direction to combine multiple woven layers of Kevlar® with a nonwoven batting of Kevlar®
What are the benefits of using CoreMatrix™ Technology?

Creates a hybrid ballistic fabric solution that provides:

- 10-15% increased ballistic performance*
- Significantly reduced backface trauma
- Enhanced flexibility and comfort for wearers
- Ease of manufacturing for body armor manufacturers

Combined with DuPont fiber technologies, it enables the lightest, most flexible solutions that meet National Institute of Justice (NIJ) standards for enhanced durability

*Depending on denier/weight.
CoreMatrix™ Technology—Innovative solution for wide range of ballistic applications

- Strike face or body side material where durability is an issue
- Bomb suits and extremity protection where high fragment performance is required
- Soft armor applications that have an emphasis on flexibility and comfort, such as:
  - Ballistic combat shirt (BCS)
  - Ballistic pelvic protector (BPP)
  - Female body armor
- Specifications with challenging edge shot requirements
- Joint areas, yoke and collar of bomb suits where increased flexibility is needed
- Blast curtains and spall liners
- Fuel tank improvised explosive device (IED) protection
- Vehicle armor
- Micrometeoroids and orbital debris (MMOD) protection
CoreMatrix™ Technology adds third dimension of protection, enhancing ballistic performance

Hybrid fabric solutions made with CoreMatrix™ Technology disperse impact energy in 360 degrees.

Traditional woven structures that are stitched together only disperse energy in the X and Y planes.

14 plies 600D (24x24) .50psf impacted with 9mm 124gr FMJ @ 955fps

CORE 600D .50psf impacted with 9mm 124gr FMJ @1045 fps
Hybrid package solutions made with CoreMatrix™ Technology

Enabling flexibility for the ultimate lightweight protection

Provide superior protection against
Edge shots • Multiple hits • Fragments • Special threats

Significantly reduce backface trauma

Meet NIJ 07 standard for durability
Meet ballistic specifications at 20% lighter fabric weight
Feature 10-15% increased ballistic performance compared to traditional woven structures*

*Depending on denier/weight.
Comfort without compromise

Hybrid package solutions made with CoreMatrix™ Technology enable:

**Increased flexibility**
Due to elimination of quilted stitching and ability to use loose sateen weaves

**Lighter weight**
Improved ballistic performance allows designs at lower end of weight specifications

**Softer feel against the body**
Nonwoven batting layer and no heavy stitching
Ease of manufacturing

Hybrid package solutions made with CoreMatrix™ Technology means

Fewer SKUs in inventory
One hybrid fabric solution instead of multiple woven materials in different deniers and weave constructions

Minimal setup time
No layer counting or complex design needed

Significantly reduced manufacturing time
“Stack & tack” method is used

No labor-intensive quilt stitching required
Only minimal stitch architecture required in vest shoulders
CoreMatrix™ Technology opens a world of possibilities

CoreMatrix™ Technology combined with DuPont fiber technologies

Enables the best, most flexible and lightest weight solutions available

Provides a differentiated solution to improve the protection and comfort of body armor

Gives manufacturers greater design freedom—solutions are available in different layer counts and yarn deniers
Access to our global network

We’re here to help:

Technical center staffed with experts and filled with state-of-the-art technology

4 global ballistic testing ranges to meet the unique requirements of various regions

Decades of expertise in the industry

dupont.com/life-protection

DuPont Life Protection

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Product safety information is available upon request. This information corresponds to our current knowledge on the subject. It is offered solely to provide possible suggestions for your own experimentations. It is not intended, however, to substitute for any testing you may need to conduct to determine for yourself the suitability of our products for your particular purposes. This information may be subject to revision as new knowledge and experience becomes available. Since we cannot anticipate all variations in actual end-use conditions, DUPONT MAKES NO WARRANTIES AND ASSUMES NO LIABILITY IN CONNECTION WITH ANY USE OF THIS INFORMATION. Nothing in this publication is to be considered to be a license to operate under or a recommendation to infringe any patent right.

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