



**DUPONT™**

# CoreMatrix™

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

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# 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



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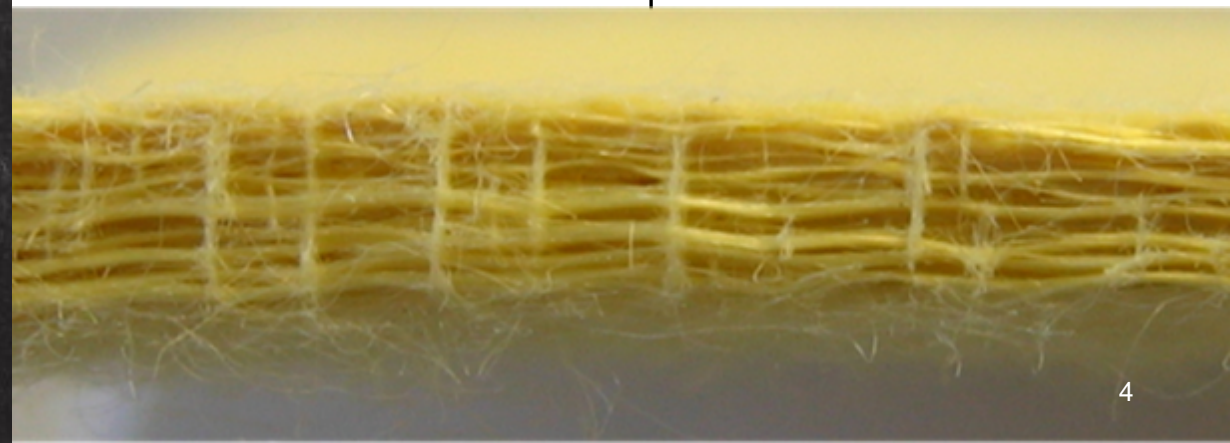
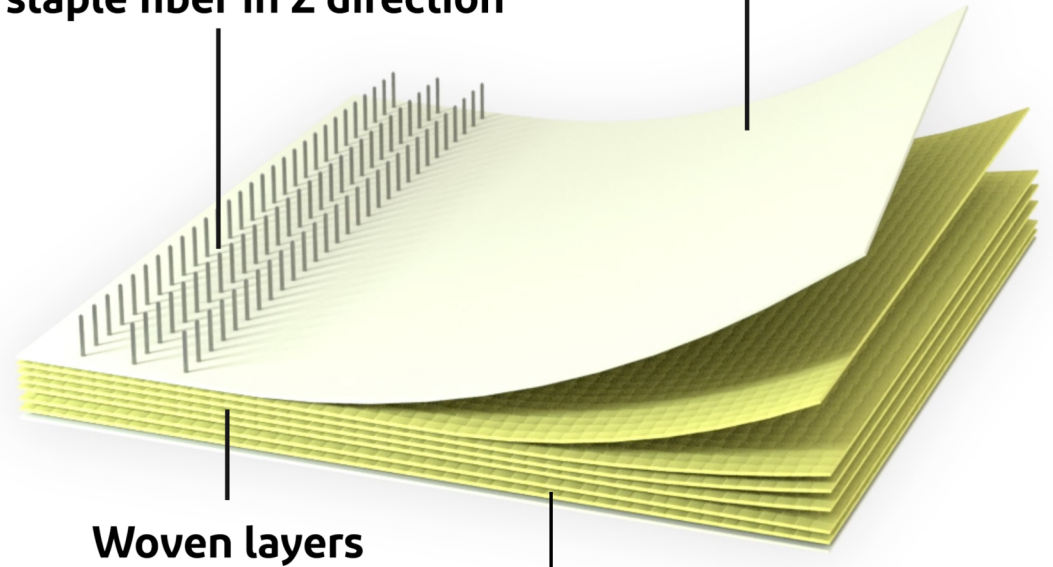
# What is CoreMatrix™ Technology?

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®

Needles that infuse staple fiber in Z direction

Nonwoven layer



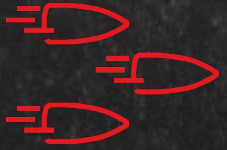
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# What are the benefits of using CoreMatrix™ Technology?

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.

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# 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



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# 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

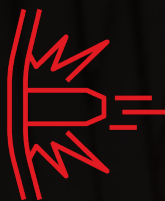


CORE 600D .50psf impacted with 9mm 124gr FMJ @1045 fps

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# Enabling flexibility for the ultimate lightweight protection

Hybrid package solutions made with CoreMatrix™ Technology

**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.

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# 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

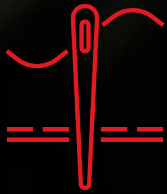
Nonwoven batting layer and no heavy stitching

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# 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

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# 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

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# 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](https://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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