

A silhouette of a person in tactical gear, including a helmet and a rifle, is shown climbing a wooden wall. The person is positioned on the left side of the frame, with their body angled towards the right. The background is a dramatic sunset sky with scattered clouds, illuminated by a warm, golden light. The overall scene conveys a sense of strength and resilience.

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Kevlar®

**Braver & Stronger
together with Kevlar®**

Helmets and Hard Insert Plates made with Kevlar® and Tensylon®

Protecting those who protect us

For military war fighters and law enforcement, dodging bullets, shrapnel, and explosions is a regular part of their day. Helmets made with DuPont™ Kevlar® and DuPont™ Tensylon® have helped save thousands of lives from a range of threats. Helmets and insert plates made with DuPont materials address the demanding requirements of a demanding job. They help offer protection against a wide range of threats, including submachine-gun bullets and high velocity fragments. State-of-the-art military helmets made with Kevlar® and Tensylon®.

Rigorous impact testing shows helmets made with Kevlar® fiber have superior structural integrity to help enhance survivability in ballistic and non-ballistic impacts. Since helmets made with Kevlar® or Tensylon® for hard armor technology are lightweight, they can help improve mobility and reduce fatigue to give protectors the much-needed energy to complete their mission.

With Kevlar® for hard armor, military and law enforcement personnel can have a lighter-weight helmet in a 100% Kevlar® solution. Kevlar® for hard armor can be processed on existing helmet manufacturing machinery to allow for an easy transition.



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Tensylon®

Tensylon® is a world-class armor solution that offers an optimal balance of performance, weight and cost for multiple end-use applications. Very low back-face deformation to help minimize the injury impact to the wearer. Ideal for use in lightweight helmets.

Tensylon® for Hard Armor helps provide

- Ballistic Protection - weight saving, back face deflection, fragmentation, blast.
- Mechanical Strength - flexural strength, ear-to-ear compression, bolt bearing strength.
- Service Life - high/low temperatures, salt water, long exposure performance.
- Easy Processing - manufacturing technology options, broad processing window, co-processable/hybridization.



Form	DTX	Structure Description	Typical to Nominal in Conditioned Weight (g/m ²)	Merge/Style
K129 Plain Weave Fabric (High Tenacity)	3140 DTX	Heat set Para-aramid	410	258H
K29 Plain Weave Fabric (Standard Tenacity)	3330 DTX	Greige, Scoured Para-aramid	460	745GR/7451S
K129 PrePreg Fabric (High Tenacity)	3140 DTX	Heat Set PrePreg, Double Sided	460/510	HA K510D
Bidirectional Laminate	n/a	2 Ply - UHMWPE for Complex Shapes	110	30A
Bidirectional Laminate	n/a	4 Ply - UHMWPE for Noncomplex Panels	215	40A
Bidirectional Laminate	n/a	4 Ply - UHMWPE for Helmets	205	HA120

Selection Criteria	Kevlar® Plain Weave (Standard Tenacity)	Kevlar® Plain Weave (High Tenacity)	Kevlar® PrePreg Fabrics	Tensylon® Bi Directional Laminates
Ballistic Protection	✓✓✓	✓✓✓	✓✓✓	✓✓✓✓
Trauma Reduction	✓✓	✓✓✓	✓✓✓✓	✓✓✓✓
Fragment Protection	✓✓	✓✓✓	✓✓✓	✓✓✓✓
Overall Performance to Weight	✓	✓✓	✓✓✓	✓✓✓✓

Visit kevlar.com to learn more

Below are recommendations to help ensure the longevity and high performance of this product. Follow these guidelines for optimal performance of the product.

Caution: Do not use this product in medical applications involving permanent implantation in the human body. For other medical applications see "DuPont Medical Caution Statement."

The information provided herein corresponds to our knowledge on the subject at the date of publication of this data sheet. This information may be subject to revision as new knowledge and experience becomes available. The data provided fall within the normal range of product properties and relate only to the specific material designated; these data may not be valid for such material used in combination with any other materials or additives or in any process, unless expressly indicated otherwise. The data provided should not be used to establish specification limits nor used alone as the basis of design; they are not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of a specific material for your particular purposes. Since DuPont 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 as a license to operate under, or a recommendation to infringe, any trademark, patent rights, or technical information of DuPont or other persons covering any material or its use. The DuPont Oval Logo, and all trademarks and service marks denoted with TM, SM or ® are owned by affiliates of DuPont de Nemours, Inc. unless otherwise noted. © 2021 DuPont. All rights reserved.

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