

TECH INSIGHT

IBQ-MEC-503

**LIGHTWEIGHT PERFORMANCE.
DYNEEMA® STRENGTH.**

YOU DO. WE PROTECT.

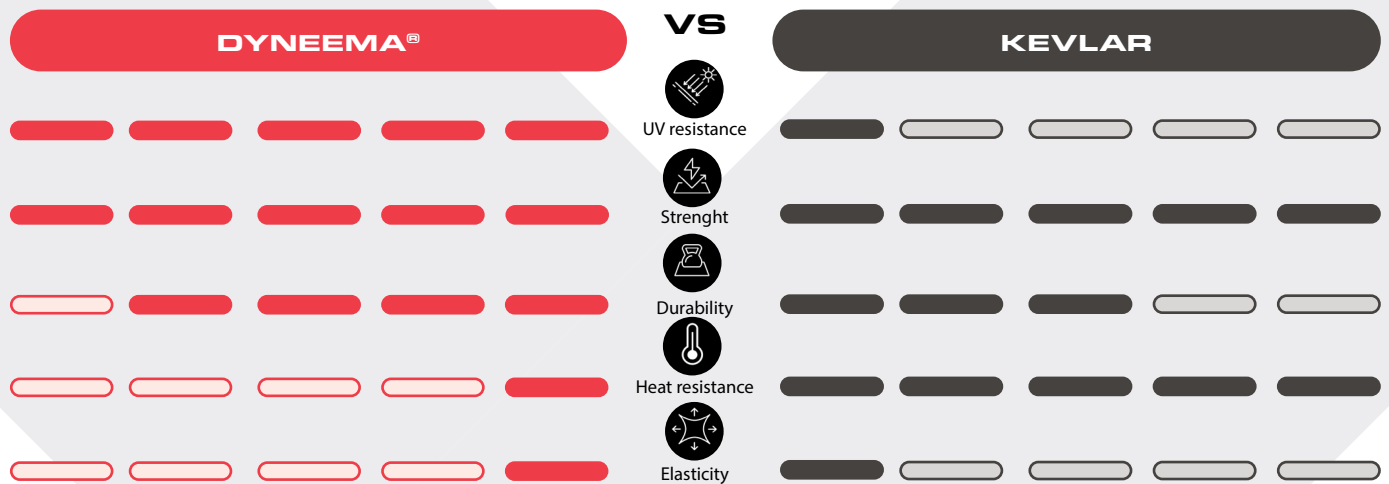

TEXTILES PROTECTING LIVES

THE TECHNOLOGY INSIDE IBQ-MEC-503

IBQ-MEC-503 combines the exceptional strength to weight ratio of Bio-Circular Dyneema® with the proven abrasion resistance of Cordura®. Made from 62% PA Cordura® and 38% Bio-Circular Dyneema®, this lightweight 185 gsm fabric delivers outstanding tear strength, durability, and quick drying performance. Designed for shoes, bags, and garment reinforcement panels, it provides maximum protection while supporting more sustainable material solutions.

WHY DYNEEMA AND NOT KEVLAR?

The selection of Dyneema® over Kevlar® for MEC-503 is based on two main reasons. First, Dyneema® provides an exceptional strength to weight ratio, high flexibility, and outstanding abrasion and tear resistance, making it particularly well suited for lightweight reinforcement applications such as footwear, bags, workwear, and outdoor equipment, where maximizing mechanical performance while minimizing weight is a key requirement. Second, these applications are frequently exposed to sunlight, making UV resistance a critical performance factor. Unlike Kevlar®, which undergoes significant strength degradation under prolonged UV exposure, Dyneema® exhibits excellent UV resistance and retains its mechanical properties over time, resulting in greater durability and a longer service life in demanding outdoor environments.



Dyneema® is an ultra high molecular weight polyethylene (UHMWPE) fibre renowned for its exceptional strength to weight ratio, making it one of the strongest and lightest commercial fibres available. Its unique combination of high tensile strength, excellent abrasion resistance, and low moisture absorption makes it ideal for lightweight, high performance applications such as ropes, protective equipment, footwear, and reinforcement fabrics. Compared to Kevlar®, Dyneema® offers superior abrasion resistance, greater flexibility, and a significantly lower weight, making it the preferred choice where minimizing weight without compromising strength is essential. However, its lower heat resistance means it is less suitable for applications involving prolonged exposure to high temperatures.

Kevlar® is a high performance aramid fibre developed by DuPont, recognized for its outstanding tensile strength, thermal stability, and resistance to cuts and punctures. It is widely used in protective apparel, industrial equipment, aerospace, and military applications where durability and safety are paramount. Compared to Dyneema®, Kevlar® provides superior heat, flame, and cut resistance, retaining its mechanical properties even in demanding thermal environments. While it is heavier and less flexible than Dyneema®, its excellent thermal performance and protective capabilities make it the material of choice for applications requiring maximum resistance to heat and mechanical hazards.

LIGHTWEIGHT PERFORMANCE

High performance equipment requires materials that maximize protection while minimizing weight. By integrating Bio-Circular Dyneema®, IBQ-MEC-503 achieves exceptional mechanical performance without sacrificing comfort or functionality. The fabric's low weight reduces the overall mass of footwear, bags, and technical garments, improving user comfort during prolonged use. Combined with Cordura's excellent abrasion resistance, IBQ-MEC-503 delivers a balanced solution for products designed to withstand demanding conditions while remaining lightweight and easy to handle.

ENGINEERED FOR EXTREME REINFORCEMENT

IBQ-MEC-503 is developed for demanding applications where maximum durability and minimum weight are essential. By combining the proven abrasion resistance of Cordura® with the exceptional strength to weight ratio of Bio-Circular Dyneema®, the fabric delivers outstanding tear strength and long lasting mechanical performance. Designed for footwear, backpacks, luggage, tactical equipment, and high wear garment panels, it withstands continuous friction, abrasion, and mechanical stress while maintaining its structural integrity. Whether used as a primary material or as a reinforcement panel, IBQ-MEC-503 provides reliable protection, lightweight performance, and a more sustainable solution without compromising durability.



WR

PFAS-free water repellent for outdoor, workwear, tactical and equipment applications. Provides light moisture protection with comfort and durability.



TRC-WR

3-layer waterproof, breathable laminated fabric offering comfort and lasting durability.

bluesign
SYSTEM PARTNER



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