

# Dyneema Purity®

## UG and VG fiber

A proprietary medical grade ultra high molecular weight polyethylene fiber designed for heavy-duty orthopedic applications and increased contrast with surrounding tissue

Dyneema Purity® UG fiber (white color) and Dyneema Purity® VG fiber (blue color for more contrast in MIS procedures) are stronger than our multi-purpose SGX fiber and contain 4x more filaments. They were developed specifically to meet the need for extremely strong, stable orthopedic implants that provide consistent performance over time.

### **A difference you can feel—and see**

These Dyneema Purity® fibers offer very low elongation (high modulus) to prevent unwanted stretch of fiber structures. They are strong, yet remarkably pliable and smooth, and their softness and chemical inertness minimize tissue inflammation and irritation. Their smoothness and high compliance also help to prevent cutting in bone compared to metal cables.

The blue Dyneema Purity® VG fiber is made of 100% UHMWPE fiber yet has been designed to create the necessary contrast to surrounding tissue, helping surgeons during their work without compromising strength.

### **Summary of Product Benefits**

- Extreme tensile strength 40 cN/dtex (4Gpa) and extremely high modulus 1450cn/dtex (140GPa).
- Soft as silk and highly compliant around bone
- Excellent fatigue and abrasion resistance
- Proven biocompatibility
- Non-hemolytic
- No memory
- Low friction coefficient

## **Provides significant advantages across a wide range of orthopedic applications**

Dyneema Purity® UV and VG fibers promote stronger implants over the long term in applications such as joint repair and replacement that demand extreme mechanical performance, including:

- Reduced profile devices in arthroscopy that deliver the strength and functionality of larger devices
- High performance spinal repair, spinal fusion, disc replacement and interspinous devices
- Stronger and more reliable devices used in emerging procedures such as dynamic stabilization and other non-fusion applications
- Cerclage cables in trauma cases that help prevent bone damage yet provide extreme strength and low elongation
- Optimized connections to ligament and bone in knee procedures with less trauma, good graft fixation to the femur, and stronger meniscal replacement

## **Dyneema Purity® fiber is easy on the body**

Dyneema Purity® UG and VG fibers are extremely soft and chemically inert, reducing the invasive nature of implantable devices and lowering tissue inflammation and irritation. This can increase patient compliance and comfort as well as accelerating recovery.

Dyneema Purity® UG and VG fibers also have excellent fatigue and abrasion resistance and are non-hemolytic. They have been successfully tested according to ISO 10993 for genotoxicity, cytotoxicity, sensitization/irritation, and mutagenicity.

## **Typical mechanical performance characteristics**

Tensile strength 40 cN/dtex (4Gpa) and modulus 1450cN/dtex (140GPa).

Tensile strength and modulus depend on grade and yarn size. Please contact DSM for more details.

To watch videos and animations and also read white papers on Dyneema Purity® fiber, please visit [www.dyneemapurity.com](http://www.dyneemapurity.com).

Material Master Files available at the FDA and Notified Body.

Dyneema Purity® fiber is produced according to ISO 13485.

Dyneema Purity® is a registered trademark of DSM.

### **Product Disclaimer**

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