

# Material Data Sheet

for: Pekkton® ivory

## 1. Composition

Polyetherketoneketone (PEKK)  
Titanium Dioxide

## 2. Physical properties

Glass temperature	T <sub>g</sub> = 157 °C	ASTM-D3418
Melting temperature	T <sub>m</sub> =363 °C	ASTM-D3418
Color	whitish	

## 3. Mechanical properties

Young's modulus	5.1 GPa	ASTM-D638
Tensile strength@break	115 MPa	ASTM-D638
Flexural modulus	5.0 GPa	ASTM-D790
Flexural strength@5% strain	200 MPa	ASTM-D790
Hardness	252 MPa	ISO 2039-1

Values for mechanical properties are based on standard geometries.

The values may vary depending on shape, design and processing parameters.

## 4. Biological testing

Pekkton® ivory as base material is tested and found to comply with **USP Class VI** biocompatibility standards. It has met or exceed the requirements of the United States Pharmacopeia for biological tests according to:

Cytotoxicity Elution Test according to USP32:2009 <87> and ISO 10993-5:2009  
(Study No.: 110042, BSL Bioservices, DE-82152 Planegg)

Intracutaneous Reactivity according to USP 32<88>  
(Study No.: 110043, BSL Bioservices, DE-82152 Planegg)

Accute Systemic Toxicity – System Injection Test according to USP 32<88>  
(Study No.: 110043, BSL Bioservices, DE-82152 Planegg)

Muscle Implantation according to USP 32<88>  
(Study No.: 110043, BSL Bioservices, DE-82152 Planegg)

## 5. Sterilization

Due to its high glass transition temperature (157°C) above normal steam sterilization temperatures of 121°C to 134°C and thanks to its natural hydrolysis resistance, Pekkton® ivory is particularly suited to steam sterilization without any noticeable changes in mechanical or physical properties.

## 6. Monitoring

Manufacture, packing and delivery are constantly monitored by the quality management system standards according to ISO 9001 and ISO 13485.

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