

# PEEK-CLASSIX™

A high performance polymer for  
medical & drug delivery applications  
requiring short-term implantation



## PEEK-CLASSIX™

- ▶ A high-performance, biocompatible thermoplastic
- ▶ For use in medical and drug delivery **devices requiring blood or tissue contact for less than 30 days**
- ▶ Exhibits a combination of strength, stiffness and toughness
- ▶ Available in pellet form in both white and natural colors.

## WHY USE PEEK-CLASSIX™ FOR MEDICAL DEVICES?

### Safe in contact with the human body biologics

Masterfile of biocompatibility and clinical evidence, demonstrates no leachables or extractables when exposed to a wide range of body tissue types.

### Withstands high temperatures

Can be used near parts that generate heat over time.

### Safe in contact with drugs

Retains performance when in contact with chemical or drug concentrates, and during sterilisation.

### Longevity & performance over time

Low co-efficient of friction provides wear and abrasion resistance to moving components.

### Lightweight & durable

Lightweight and durable to resist impact, and for continued use over time, even in miniaturised parts under load.

### No moisture absorption

Low moisture absorption (0.05wt%) means components retain dimensions in biological or fluid environments.

### Electrical performance

Electrical insulative properties enable outstanding thermal, environmental resistance and mechanical performance for connected devices,

### Regulatory approved

Compliant with medical device and food contact standards including FDA, REACH, and many others.

## APPLICATION EXAMPLES

### DRUG DELIVERY DEVICES

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- Wearable, connected devices
- Injectable devices

#### Components include:

- Pumps, valves and fluid management
- Sensors
- Gears
- Dosing management

### MEDICAL DEVICES

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- Catheters
- Tubing
- Blood Management
- Laparoscopes
- Surgical Instruments
- Analytical Equipment



## TYPICAL PROPERTIES

### PEEK-CLASSIX Polymer Grades

Property	Units	Method	White	Natural
Tensile Strength at Yield	Mpa	ISO 527	99	101
Tensile Elongation at Break	%	ISO 527	21	44
Flexural Strength	Mpa	ISO 178	169	165
Flexural Modulus	Gpa	ISO178	4.2	4.1
Izod Notched Impact	KJm-2	ISO 180	6.4	8.2
Density	g/cm3	ISO 1183	1.39	1.3



## PRODUCT FAMILY

### INDUSTRIAL

#### VICTREX™ PEEK

Strong & chemically resistant

VICTREX™ PEEK polymers are suitable for applications that demand higher strength and stiffness as well as high ductility. They are chemically resistant to aggressive environments, suitable for sterilisation. Some VICTREX PEEK grades are suitable food contact applications, and have some biocompatibility.

### SHORT-TERM

#### PEEK-CLASSIX™

Short-term human tissue contact

PEEK-CLASSIX™ polymer has all the benefits of VICTREX PEEK and also meets US Pharmacopoeia Class VI / ISO 10993 Standards including:

- ISO 10993-1 Guidance
- ISO 10993-5 Cytotoxicity
- ISO 10993 -10 Sensitization

### LONG-TERM

#### PEEK-OPTIMA™

Long-term human implantation

PEEK-OPTIMA™ polymer is a biocompatible material in conformance with ISO 10993-1 for use in the manufacture of medical devices for long-term implantable applications such as orthopaedic implants.



Invbio's team of PEEK experts can support you to select the ideal material and grade for your application



## EXPERIENCE THE BENEFITS

Invibio works with a wide spectrum of drug delivery device customers to solve complex challenges and provide biocompatible materials for even the most extreme conditions, from inhalers, to next generation, wearable connected devices. We are helping to upgrade performance, efficiency and cost-effectiveness in demanding drug delivery environments.

### PEEK EXPERT

#### WE ARE THE #1 EXPERTS IN PEEK

Our expertise enables us to support every stage of application development, helping manufacturers bring new products to market, safely and quickly.

#### WE PIONEER TO HELP IMPROVE PERFORMANCE

We are helping customers innovate with biocompatible materials in drug delivery and medical devices while providing compliance with regulatory standards, including US Pharmacopoeia Class VI / ISO 10993 Standards

#### WE COLLABORATE TO DRIVE COSTS DOWN

We partner with OEMs and Tier 1s to reduce component cost and improve performance, through identifying where they can gain most advantage in redesigning with PEEK.



# Ready to evaluate **PEEK-CLASSIX™** for your next application?

Contact us  
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