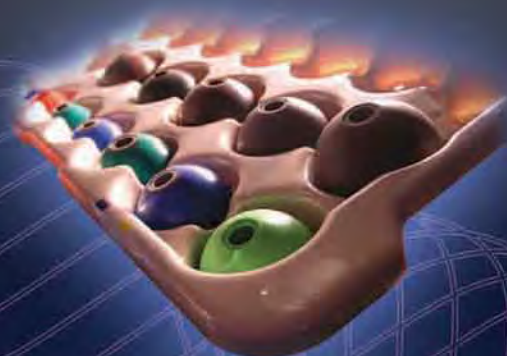




TOTAL  
PLASTICS  
INC.

L I F E   S C I E N C E S

*The Trusted Leader  
in Medical Grade Thermoplastics*



**(888) 874-1771**  
[www.totalplastics.com](http://www.totalplastics.com)



## Ultra High Molecular Weight Polyethylene (UHMW-PE)



### BENEFITS:

- Excellent wear resistance
- Lot controlled and traceable
- Extremely high notched impact strength
- Compliant with ASTM F-648 and ISO 5834 standard specifications
- Available in GUR® 1020 (Type I) and GUR® 1050 (Type II) surgical grades
- Very good sliding quality and low friction loss values
- Outstanding low temperature properties
- High energy absorption at high stress rates
- Excellent chemical resistance
- High resistance to stress cracking
- Very good noise reduction
- Negligible water absorption
- Biocompatible and lightweight (0.930g/cm<sup>3</sup>)
- FDA, USDA, 3A and NSF compliant grades

### APPLICATIONS:

orthopedic surgical implants as articulating surfaces for total joint arthroplasties · various instruments, devices and components for orthopedic and general surgery · dental implant healing caps · bone cement restrictors · additional devices designated as long term · human implants

### PRODUCT:

standard rods available in various diameters (inch and millimeters); supplied as natural, rectangular bar and sheet are available, please contact us for information regarding cross-linking and anti-oxidants

### BRANDS:

GUR® · LENNITE®

## Polyetheretherketone (PEEK) intended for long term implants



This polymer has become one of the most widely used in devices intended for long term implant in the spine due to its unique characteristics. The proximity to the density of human bone, the overall compressive strength, and the ability to take on a variety of shapes

have given PEEK a primary position in the market. Our team of experts can help you determine the best possible solutions using this material, and we can even assist with your 510k submission. Let us show you how worldwide leaders in manufacturing and supply chain management can make a difference in your device from concept and design to the hands of a surgeon.

### BENEFITS:

- Tested for biocompatibility under ISO classifications
- Lot controlled and traceable
- Compliant with standard specification ASTM F2026
- Radiolucent in x-ray techniques (unfilled grades)
- Excellent dimensional stability
- Superior chemical resistance
- Low moisture absorption
- High heat resistance and thermal stability
- Low tendency to form stress cracks

### APPLICATIONS:

spinal interbody fusion cages and spacers, various long term human implantable devices

### PRODUCT:

standard rods available in various diameters, supplied as natural, please contact us for information regarding profile extrusions and filled grades

BRAND: VertePEEK™

## Polyetheretherketone (PEEK) intended for short term implants

In accordance with the biocompatible test standards under ISO 10993, this polymer is available in all three phases of contact with the human body. It is important to note that individual device testing may be required for an FDA submission, but PEEK has been proven to be an excellent choice for components and devices in the healthcare markets.

### HUMAN BODY CONTACT UP TO 30 DAYS



### BENEFITS:

- extremely good chemical resistance
- lot controlled and traceable
- biocompatible
- excellent mechanical and thermal properties
- superior dimensional stability
- good abrasion resistance
- high impact strength
- ISO 10993 and USP Class VI compliant
- extreme resistance to hydrolysis

### APPLICATIONS:

dental implant healing caps, temporary abutments, endoscopic equipment, short term implants, x-ray and MRI devices, catheters, medication dosing systems, laparoscopes, surgical instruments, measurement probes, dialysis equipment

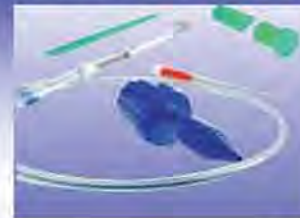
### PRODUCT:

standard rods available in various diameters, supplied as natural

### BRANDS:

TECAPEEK™ CLASSIX · KETRON® PEEK-CLASSIX™ LSG

### HUMAN BODY CONTACT UP TO 24 HOURS



### BENEFITS:

- Excellent mechanical, thermal and chemical resistant properties
- Lot controlled and traceable
- Very good stress crack resistance
- Biocompatible for instrumentation
- Good sliding properties
- High resistance to gamma radiation
- ISO 10993 and USP Class VI compliant
- Excellent machinability
- Creep and wear resistant

### APPLICATIONS:

repeated use surgical instruments, sterilization containers, dental equipment, pharmaceutical tablet production, bioreactors, instrument holders, chromatography components, nozzles, adapters

### PRODUCT:

standard rods available in various diameters; supplied as natural; colors are available in red, yellow, blue, green and black; a glass-filled grade is also available

### BRANDS:

TECAPEEK™ · TECAPEEK™ MT  
KETRON® PEEK LSG · SUSTA®PEEK MG



## Polyetheretherketone (PEEK)

### carbon-filled

The combination of PEEK polymer and various degrees of carbon fiber produce a material that is lightweight and high in stiffness and strength. Although the thirty percent filled product is the most common, there has been an increase in the higher percentages that include continuous long fiber and woven fiber that can account for fifty or sixty percent of the product's mass. Our technical support personnel can assist with selection of the proper material to fit your needs.



Photograph provided courtesy of Ensinger Inc.  
TECATEC™ is a trademark of Ensinger Inc.

### BENEFITS:

- Excellent rigidity and compressive strength
- Lot controlled and traceable
- Very good chemical resistance
- Superior dimensional stability
- Optimum wear resistance and load carrying capability
- Excellent creep resistance
- Good machinability
- Radiolucent
- Excellent rigidity
- ISO 10993 and USP Class VI compliant
- Human body contact up to 24 hours
- Low expansion rate

### APPLICATIONS:

**fixator equipment, targeting guides, retractor blades, minimal invasive devices, bearing surfaces, isolating parts**

### PRODUCT:

*custom ordered rods available in various diameters, custom ordered sheets available in various thicknesses, carbon-filled percentage at 30% for chopped and random fibers, woven and long continuous fibers are available in higher percentages*

### BRANDS:

- TECATEC™ · TECAPEEK™ CF30/XP98 (PEEK 30% carbon-filled) · KETRON®PEEK-CA30 LSG

## Heat Stabilized Polypropylene (HSPP) Sheet

### BENEFITS:

- Excellent chemical resistance
- Laser markable
- Superior dimensional stability
- Lightweight
- Temperature resistant for steam sterilization
- Lot controlled and traceable
- FDA and USP Class VI raw materials
- Low moisture absorption
- Good machinability

### APPLICATIONS:

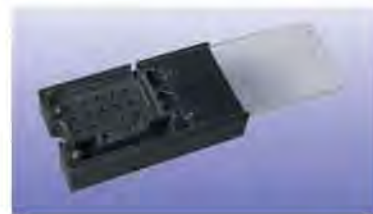
**sterilization containers, surgical trays, sterilization tray components, cranio-maxillofacial trays**

### PRODUCT:

*standard sheet thicknesses from 1/2" to 2 1/2," available in white and black, additional colors and thicknesses available as a custom order*

### BRANDS:

- PROPYLUX® HS2 · TECAPRO™ MT
- PROTEUS® LSG · TOTAL PRO™ HSPP



## Polyphenylsulfone (PPSU) Sheet

For sterilization cases and trays, PPSU has the most desirable properties of any polymer. Whether you are thermoforming or machining, this material is easy to work and takes repeated steam autoclave cycles with little or no loss of physical properties. Ask about our cut-to-size and order-to-size capabilities to fit your needs.

### BENEFITS:

- Resin meets the requirements of ISO 10993 specifications
- Lot controlled and traceable
- Excellent dimensional stability
- Outstanding impact resistance
- Withstands repeated autoclaving
- Laser markable and silkscreen printable
- Good visibility through transparent material

### APPLICATIONS:

**thermoformed lids and bases for sterilization container systems, slide type lids for cassette style machined trays, various tray and lid components**

### PRODUCT:

*Standard sheet thicknesses in transparent gray (CL301 formulation) of .095" and .125," other transparent colors and thicknesses are available, opaque thicknesses and colors are also available as a custom order*

### BRANDS:

- RADEL® R GRADES IN THE 5000 SERIES





## Polyphenylsulfone (PPSU) Rod



### BENEFITS:

- Resin meets the requirements of ISO 10993 specifications
- Lot controlled and traceable
- Excellent dimensional stability
- Stress relieved
- Outstanding impact resistance
- Withstands repeated autoclaving
- Laser markable and silkscreen printable

### APPLICATIONS:

**provisional trials, instrument handles, impactor heads, various medical device components, parts for sterilization trays and containers**

### PRODUCT:

*standard rods available in diameters from 1/2" to 3 1/2", available in bone white, black, blue, green, grey and a variety of other colors, additional colors and diameters available, a BaSO4 filled grade is also available*

### BRANDS:

RADEL® R · TECASON™ P MT  
R5500 PPSU LSG · SUSTASON® PPSU MG

## Acetal Copolymer (Polyoxymethylene or POM-C)



### BENEFITS:

- Good strength and rigidity
- Lot controlled and traceable
- Good sliding properties
- Laser markable
- Heat resistant
- Good electrical insulation
- Easily welded and machined
- Stress relieved
- Resin meets the requirements of USP Class VI specifications

### APPLICATIONS:

**provisional trials, instrument handles, medical device components**

### PRODUCT:

*standard rods available in diameters from 1/2" to 3 1/2", available colors in dark blue, dark green, yellow, black, brown, grey and a variety of others, please contact us regarding availability of sheet, additional colors and diameters available*

### BRANDS:

CELCON M25® · POMALUX® · TECAFORM™ AH MT  
SUSTARIN® C MG

## Heat Stabilized Polypropylene (HSPP) Rod



### BENEFITS:

- Excellent chemical resistance
- Lot controlled and traceable
- Laser markable
- Superior dimensional stability
- Lightweight
- Steam autoclavable
- Heat stabilized for improved temperature performance
- ISO 10993 and FDA compliant
- Low moisture absorption
- Good machinability

### APPLICATIONS:

**provisional trials, instrument handles, various components and medical devices**

### PRODUCT:

*standard rods available in diameters from 1/2" to 3 1/2"; available colors in dark blue, dark green, yellow, red, brown, black, grey, white, orange, magenta, light blue, aqua blue, neon green, violet and rust; additional colors and diameters available as a custom order*

### BRANDS:

PROPYLUX® HS · TECAPRO™ MT

## Polyetherimide (PEI)



### BENEFITS:

- Inherent flame resistance
- Lot controlled and traceable
- Good steam autoclave performance
- Superior limiting oxygen index
- Exception tensile and flexural strength
- Broad chemical resistance
- FDA and USP Class VI compliant resin

### APPLICATIONS:

**provisional trials, instrument handles, medical device components**

### PRODUCT:

*standard rods in diameters 1" to 3"; available colors in blue, black, grey and green; additional colors and diameters available*

### BRANDS:

ULTEM® · TEMPALUX® · TECAPEI™ MT  
SUSTA®PEI MG



## Polycarbonate (PC)

### BENEFITS:

- Excellent impact and toughness properties
- Lot controlled and traceable
- Good electrical insulation
- Easy to machine, weld and bond
- Superior transparency
- Good heat deformation resistance
- Excellent gamma radiation resistance
- USP Class VI compliant resin



### APPLICATIONS:

surgical equipment, housings and covers, instrument components, disposable medical devices

### PRODUCT:

Standard rods available in various diameters  
Supplied as transparent with a bluish tint  
Additional colors and diameters available

### BRANDS:

LEXAN® HPS6 · TECANAT™  
TECANAT™ PC MT · ZELUX® GS

## Polysulfone (PSU)

### BENEFITS:

- High chemical resistance
- Lot controlled and traceable
- Good radiation stability
- Low ionic impurity levels
- Hydrolysis resistant
- Semi-transparent
- Excellent mechanical and electrical properties
- Heat resistant



### APPLICATIONS:

medical devices, analytical instrumentation

### PRODUCT:

standard rods available in various diameters, supplied as natural, additional colors and diameters available

### BRANDS:

UDEL® · TECASON™ S

## Tygon Tubing/Tygon® S-50-HL Tubing

### BENEFITS:

- Ideal for contact with blood
- Flexible and resilient with established performance in peristaltic pump applications
- Fully characterized to ISO 10993 and FDA guidelines for biocompatibility
- Meets USP Class VI criteria



### APPLICATIONS:

tubing for chemotherapy, dialysis, minimally invasive surgery

## Tygon® 2275 High Purity Tubing

### BENEFITS:

- Provides an uncompromising fluid path for sensitive solutions
- Low absorption maintains fluid integrity
- Plasticizer-free (virtually no extractables)
- Environmentally friendly (safely disposed through incineration)
- Documented biocompatibility to the ISO 10993 standard
- Meets USP Class VI, FDA and NSF criteria



### APPLICATIONS:

sterile filling and dispensing systems, diagnostic equipment, nuclear equipment, laboratory analytical instrumentation, infusion sets for parenterals and drugs, cosmetic production, food and beverage processing, cell and tissue culture transport

## Pharmed® BPT Tubing

### BENEFITS:

- Excellent flexibility
- Outlasts silicone tubing in peristaltic pumps by up to 30 times
- Can be autoclaved repeatedly
- Heat weldable for sterile access in closed systems
- Documented biocompatibility to the ISO 10993 standard
- Meets USP Class VI, FDA and NSF criteria



### APPLICATIONS:

peristaltic pumps and cell culture, transparent working models, insulators, plug strips, masking covers, photo covers, housing parts, plugs, sight glasses, optical components, weather protection parts



Plastics play a crucial role in all areas of life sciences including orthopaedics, endoscopy, arthroscopy, cardiovascular, neurological, biomechanical, diagnostic and pharmaceutical, and are used in many types of medical devices and instruments, surgical trays and containers. Because of their unique properties, certain plastics are well suited for medical applications where safety and sterilization are imperative. Total Plastics is dedicated to providing quality materials that fit these criteria through our Life Sciences Division.



With our versatile inventory of medical grade plastics including sheet, rod, tubing, film and foam tape, our knowledgeable staff is trained to assist with a variety of medical applications through all stages of the process. Total Plastics offers value-added services, such as cut-to-size and on-time delivery.

### SERVICES

ISO 9001:2008 and  
ISO 13485 certified facility

USP Class VI, FDA and  
ISO 10993 compliant materials

Complete material  
lot and batch traceability

Standard and custom certifications  
available on all shipments

The highest quality measures  
to ensure product compliance

Laser markable products

Worldwide shipping

### MEDICAL GRADE THERMOPLASTICS

- Acetal Copolymer (POM-C)
- Heat Stabilized Polypropylene (HSPP)
- Polyetheretherketone (PEEK)
- Polycarbonate (PC)
- Polyetherimide (PEI)
- Polyphenylene Oxide (PPO)
- Polyphenylsulfone (PPSU)
- Polysulfone (PSU)
- UHMW-PE (GUR)
- Tygon® Tubing

