



Product Guide

Engineering and high-performance
thermoplastics for industrial applications

With more than 80 years of experience, 44 branch offices in 20 countries, and a team of technical service experts, engineers and application development managers, the Engineering Shapes & Solutions Division of the Mitsubishi Chemical Group (MCG) is the global leader for researching, developing and manufacturing high-performance engineered polymer materials. Our products make the world a safer place by providing solutions across many industries:

- Aerospace
- Automotive
- Renewable Energy
- Energy, Oil & Gas
- Food & Pharma
- Heavy Equipment
- Linings
- Healthcare
- Semiconductor & Electronics
- Sports & Leisure

Giving back more than we take

For the MCG Engineered Shapes & Solutions Division, sustainability is more than just a slogan. It is woven into our company mission and underpins our corporate vision for the future. Everything we do as a company, a partner and an industry leader is guided by our vision to achieve the sustainable well-being of people and the planet. This is our corporate philosophy: KAITEKI.

Mitsubishi Chemical Group (MCG) has chosen three core management strategies for realizing KAITEKI:

- **Management of Technology (MOT)**
- **Management of Economics (MOE)**
- **Management of Sustainability (MOS)**

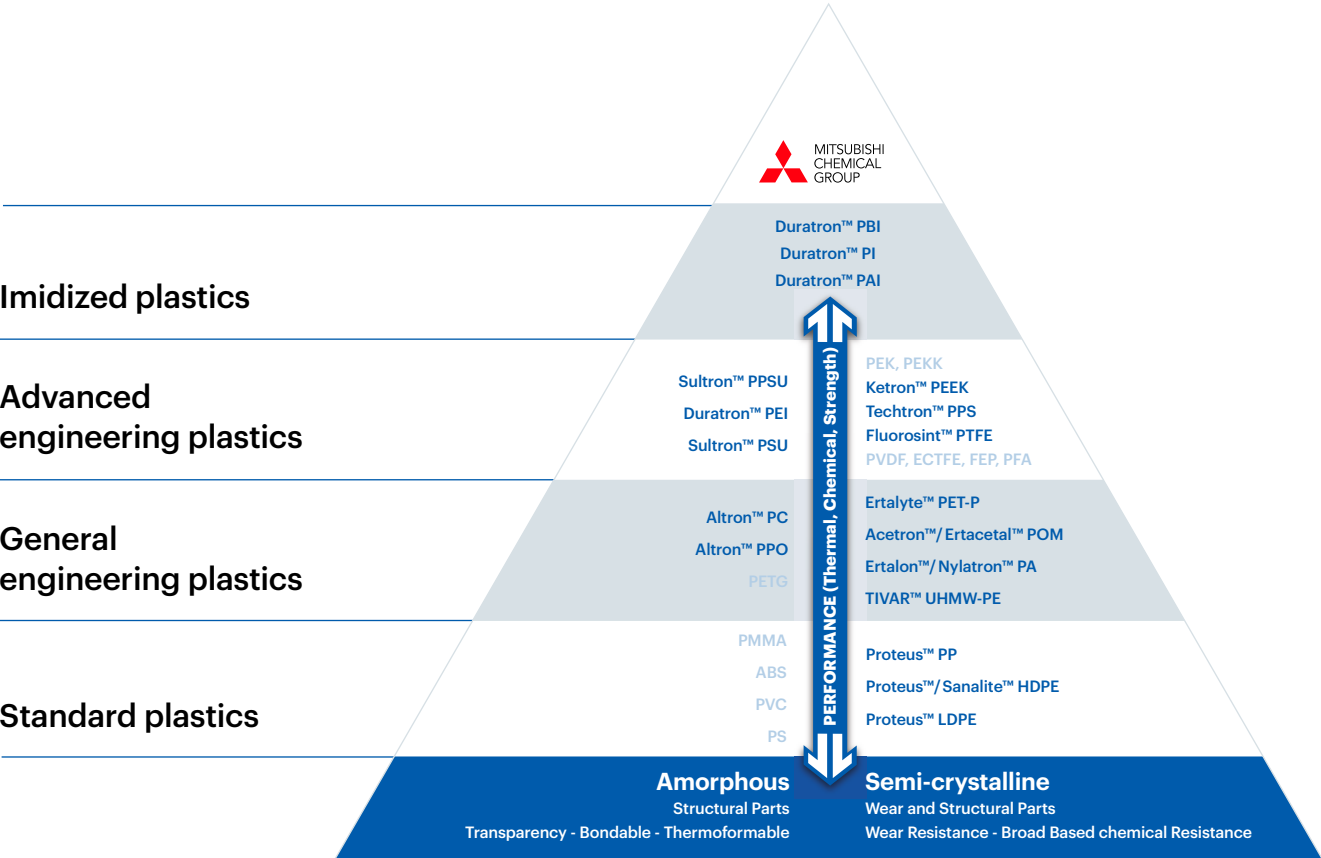
As part of the global MCG organization, we also strive to realize KAITEKI with the help of innovative technologies and science. We seek to provide our customers, partners, and society with solutions that add value, thereby making a meaningful contribution to health and sustainable life on this planet.

Contents

Classification of plastics	04
MatFind interactive material selector tool	06
01 Imidized plastics	07
Duratron™ PBI/PI/PAI	08
Semitron™ PAI	18
02 Advanced engineering plastics	20
Ketron™ PEEK	21
Techtron™ PPS	33
Sultron™ PSU	37
Duratron™ PEI	39
Fluorosint™ PTFE	42
Semitron™ - static dissipative plastics	45
03 General engineering plastics	54
Ertalon™ / Nylatron™ PA	55
Acetron™ / Ertacetal™ POM	71
Ertalyte™ PET-P	76
Altron™ PC	81
Flextron™ TPE	83
TIVAR™ 1000 UHMW-PE	85
TIVAR™ Specialty Materials UHMW-PE	91
04 Standard plastics	103
Borotron™ (U)HMW-PE	104
Proteus™ and Sanalite™ LDPE, HDPE, PP	108
RCH™ (U)HMW-PE	114
PE 500 HMW-PE	116
05 Sterra™ Thermoplastics with reduced CO₂ impact	119
06 Food-approved thermoplastics	129
07 Life Science Grades	136
08 MediTECH™ Implantable polymers	138
09 Bulk material handling	140
10 PMUC-approved thermoplastics	152

Classification of plastics

The materials performance pyramid ranks the most common thermoplastics according to their temperature performance. Amongst these materials, different “families” can be recognized, all exhibiting high value in use within numerous applications.



Classification of plastics

Semi-crystalline Ertalon™/Nylatron™ PA grades offer good mechanical strength and stiffness, high toughness, low friction and very good wear resistance. These properties make them ideal replacements for a wide variety of materials from metal to rubber.

Ertacetal™ POM provides high mechanical strength and stiffness coupled with enhanced dimensional stability. As a semi-crystalline material, Ertacetal™ is characterized by a low coefficient of friction and good wear properties (wet environment).

Unreinforced, semi-crystalline Ertalyte™ PET-P-P offers very good dimensional stability in combination with excellent wear resistance, low friction, high strength, creep resistance and resistance to moderate acidic solutions.

Although exhibiting considerably lower mechanical strength, stiffness and creep resistance than Ertalon™/Nylatron™, Ertacetal™ and Ertalyte™, the range of TIVAR™ UHMW-PE grades meets the demands of many industries and this from cryogenic temperatures up to about 85°C (185°F). These materials show outstanding impact strength, excellent wear and abrasion resistance, low friction and excellent release properties.

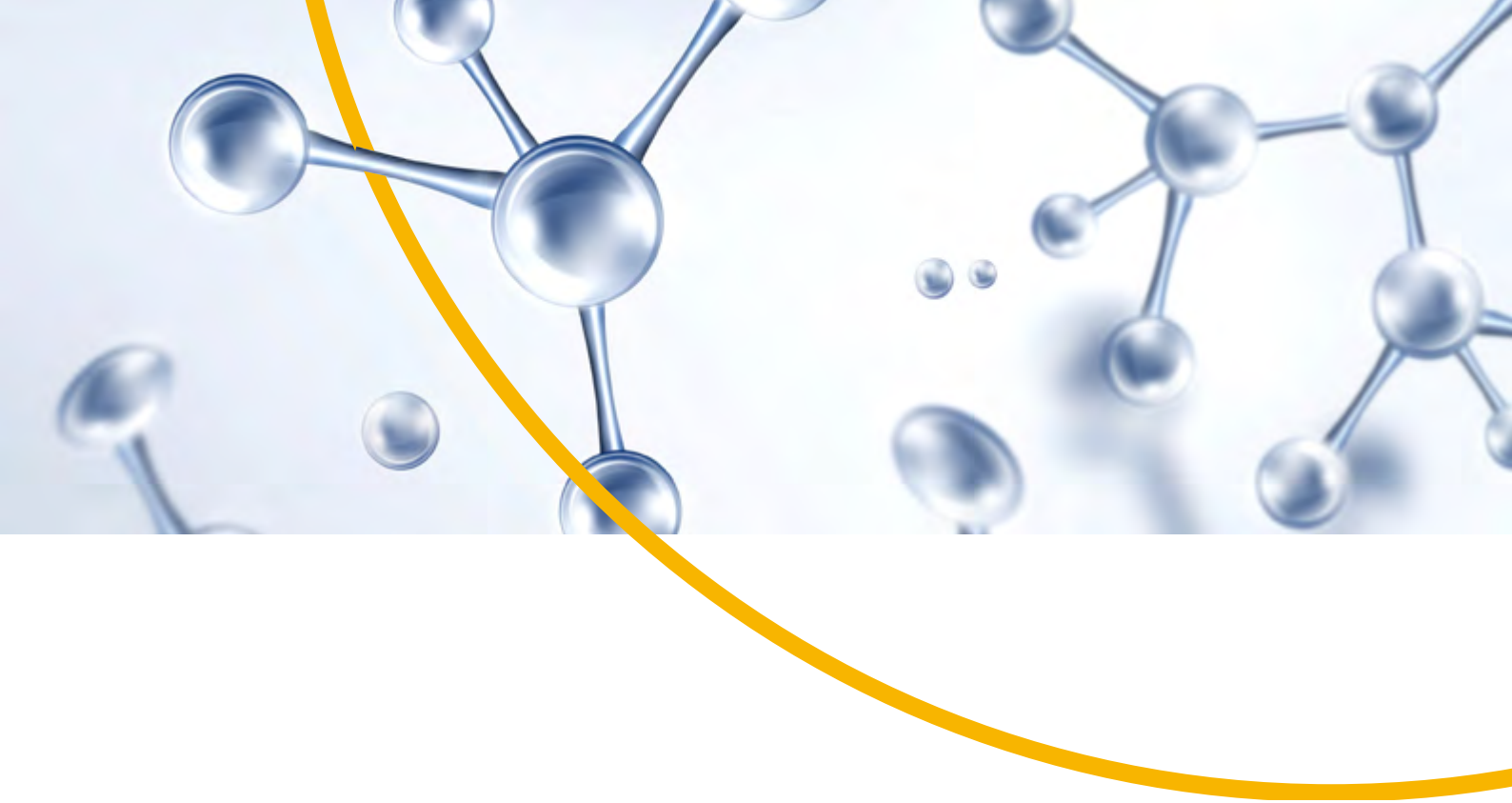
Duratron™ PBI, Duratron™ PI and Duratron™ PAI are designed for top performance in both structural and friction & wear applications. Characterised by an extreme temperature resistance (up to 310°C (590°F) continuously for Duratron™ PBI), these materials perform where others would fail.

The semi-crystalline Ketron™ PEEK, Techtron™ PPS and Fluorosint™ PTFE typically offer a combination of excellent chemical and mechanical properties, also at elevated temperatures. These materials can be used for both structural and friction & wear applications.

The amorphous Sultron™ PPSU, Sultron™ PSU and Duratron™ PEI exhibit an outstanding retention of their mechanical properties up to the glass transition temperature and excellent electrical properties. Additionally, their hydrolysis resistance [autoclavability] offers great possibilities for structural parts in medical, pharmaceutical and dairy industries.

From Semitron™ ESd 225 – a static dissipative acetal grade – up to Semitron™ ESd 520HR – a static dissipative polyamide-imide grade – a comprehensive range of Semitron™ ESd grades are available to service static dissipative needs over a broad range of temperatures and mechanical loading conditions.





MatFind interactive material selector tool

– Online available at www.mcam.com/en/products/matfind

If you need assistance in selecting the right material for your individual application, please contact our material selection experts. If you prefer to browse by yourself, our new interactive material selection tool is available online.

MatFind

The tool combines a Material Property Wizard with an Advanced Material Selector. It has been designed to meet the requirements of the experienced user (being familiar with thermoplastics and/or the MCAM portfolio) as well as the non-experienced user (no or little experience with the thermoplastics business).

Independent of your level of familiarity with thermoplastics, MatFind is easy to use and all product information is convenient to find.

Advanced Material Search

This functionality enables you to search, filter and compare materials based on desired properties. Optimized for the experienced user.

Product Wizard Guided Search

This functionality guides you in the early stages of your journey by helping you select properties and make choices based on a specific challenge, such as reducing weight, to ultimately create a product. Optimized for the less experienced user.

Start your material selection journey with MatFind.

Create your individual MatFind account and login to access all MatFind features.

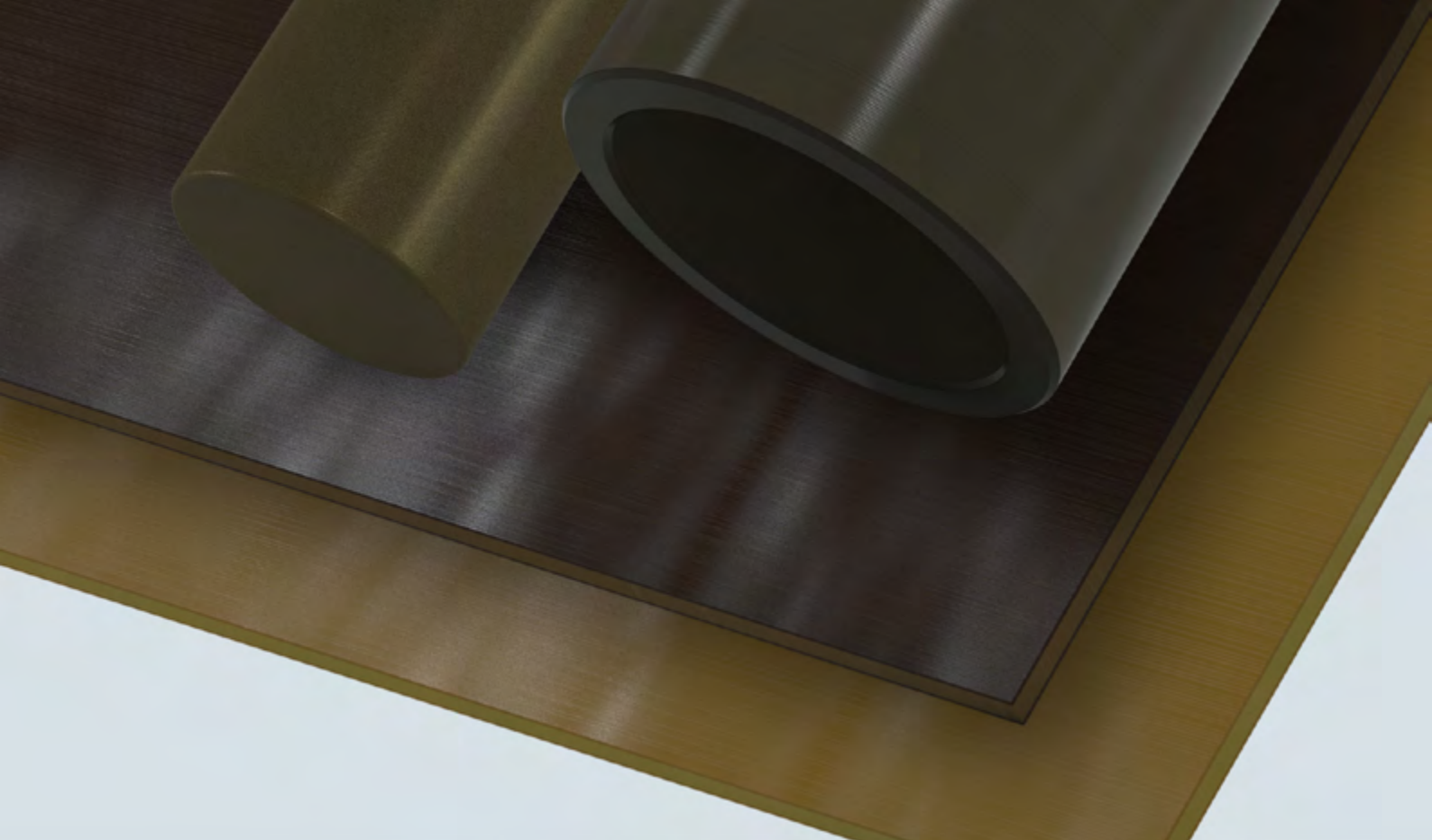
With a MatFind account, you get access to advanced material selection tools to search more efficiently.



01 | Imidized plastics

Ultra heat-resistant plastic shapes for extreme applications

Our most advanced machinable plastics, these PBI, PI and PAI engineering polymers can endure temperatures as high as 425°C (800°F) and can withstand the harshest operating environments.



Duratron™ PBI/PI/PAI

Imidized materials are known for their exceptional thermal stability, chemical resistance, and mechanical strength, making them ideal for use in aerospace, electronics, and other demanding applications. Parts machined from Duratron™ stock shapes provide greater compressive strength and higher impact resistance than most advanced engineering plastics.

Duratron™ CU60 PBI

Duratron™ D7000 PI

Duratron™ D7015G PI

Duratron™ DF7000 PI

Duratron™ DF7015G PI

Duratron™ DF7040G PI

Duratron™ DFU7000 PI

Duratron™ DFU7015G PI

Duratron™ DFU7040G PI

Duratron™ T4203 PAI

Duratron™ T4301 PAI

Duratron™ T4501 PAI

Duratron™ T4503 PAI

Duratron™ T4540 PAI

Duratron™ T5030 PAI

Duratron™ T5530 PAI

Duratron™ T7130 PAI

Duratron™ T7530 PAI

Availability of products, shapes, and colors may differ by region.

Duratron™ CU60 PBI

Polybenzimidazole

Duratron™ CU60 PBI is the highest-performing engineering plastic available from Mitsubishi Chemical Group due to its superior mechanical properties, heat resistance and mechanical property retention over 205°C (400°F). This polybenzimidazole has better wear resistance and load-carrying capabilities at extreme temperatures than any other reinforced or unreinforced advanced engineering plastic. This makes this material highly attractive to semiconductor manufacturers for vacuum chamber applications. In addition, Duratron™ CU60 PBI is ideal for high-heat bushings, connectors, valve seats and probe tip lenses.

Material Properties and Benefits

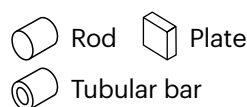
Highest mechanical properties of any plastic at temperatures over 205°C (400°F).

- Market's best wear and load carrying performance in extreme temperatures
- High ionic purity, no outgassing except in water
- Excellent ultrasonic transparency
- Lowest coefficient of thermal expansion and highest compressive strength of all unfilled plastics

Technical Datasheet 



Available Geometries



Available Colors

Black



Duratron™ D7000 PI

Polyimide

Duratron™ D7000 PI hot compression-molded shapes possess superior electrical and thermal insulation properties and outstanding mechanical performance qualities for applications that demand higher temperature resistance. In addition to these characteristics, Duratron™ D7000 PI offers great chemical resistance, high strength and toughness and outstanding dimensional stability. For these reasons, Duratron™ D7000 PI is often seen as an ideal solution for insulators, high-temperature fixtures, valve seats, gaskets and seals.

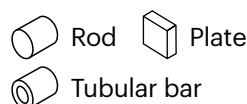
Material Properties and Benefits

- Excellent electrical and thermal insulation
- Great chemical resistance
- High strength, toughness, and dimensional stability at high temperatures
- Candidate for metal replacement: Lightweight and lubrication free

Technical Datasheet 



Available Geometries



Available Colors

Brown



Duratron™ D7015G PI

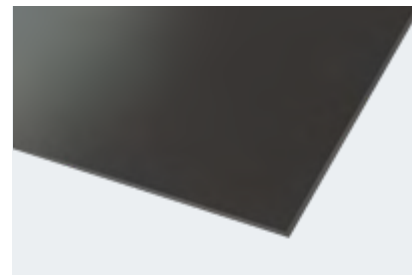
Polyimide

Duratron™ D7015G PI Polyimide is a bearing-grade PI that exhibits superior temperature and wear resistance qualities, while offering a low coefficient of friction. Not only does hot compression-molded Duratron™ D7015G PI maintain its performance abilities with or without lubrication, but with 15% graphite added to provide long wear and low friction, it is a great choice for bearing, bushing and seal applications where higher loads or speeds are a significant factor.

Material Properties and Benefits

- Superior temperature and wear resistance
- Low coefficient of friction (COF)
- No lubrication needed
- Suitable for high loads and speeds

[Technical Datasheet](#) 



Available Geometries

 Plate

Available Colors

Dark-gray



Duratron™ DF7000 PI

Polyimide

Duratron™ DF7000 PI direct-formed parts and near net shapes possess superior electrical and thermal insulation properties and outstanding mechanical performance qualities for applications that demand higher temperature resistance. In addition to these characteristics, Duratron™ DF7000 PI offers great chemical resistance, high strength and toughness and outstanding dimensional stability. Typical applications are in the semiconductor, automotive, aircraft and plasma torch for insulators, nozzles, gaskets and seal components.

Material Properties and Benefits

- Excellent thermal and electrical insulation
- Outstanding mechanical performance in extreme temperatures
- Excellent dimensional stability
- High strength and toughness
- Great chemical resistance

[Technical Datasheet](#) 



Available Geometries

 Rod  Plate

Available Colors

Orange-brown



Duratron™ DF7015G PI

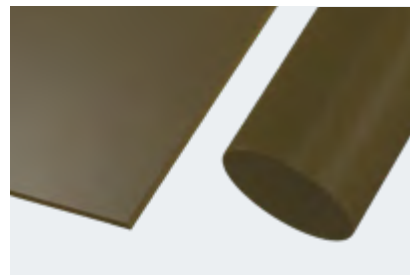
Polyimide

Duratron™ DF7015G direct formed parts and near net shapes are made from a bearing-grade polyimide that exhibits superior temperature and wear resistance qualities, while offering a low coefficient of friction. Not only does Duratron™ DF7015G PI maintain its performance abilities with or without added lubrication, but with 15% graphite added to provide low wear and friction, it is a great choice for bearing, bushing and seal applications where higher loads or speeds are a significant factor.

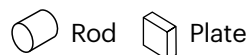
Material Properties and Benefits

- 15% graphite-filled
- Consistent performance with or without lubrication
- Very low friction and wear
- Excellent temperature resistance

[Technical Datasheet](#) 



Available Geometries



Available Colors

Dark-green



Duratron™ DF7040G PI

Polyimide

Duratron™ DF7040G PI is a bearing-grade polyimide that exhibits superior temperature and wear resistance qualities as well as a low coefficient of friction. Not only do direct-formed Duratron™ DF7040G PI shapes maintain their performance with or without added lubrication, they are also enhanced with 40% graphite for even lower wear and friction compared to Duratron™ DF7015G. This makes this grade the best choice for bearing, bushing and seal applications where higher loads or speeds are a significant factor.

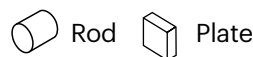
Material Properties and Benefits

- 40% graphite-filled
- Consistent performance with or without lubrication
- Very low friction and wear
- Excellent temperature resistance

[Technical Datasheet](#) 



Available Geometries



Available Colors

Dark-green



Duratron™ DFU7000 PI

Polyimide

Duratron™ DFU7000 PI direct-formed shapes have improved thermal-oxidative stability, lower moisture uptake and better dimensional stability than Duratron™ DF7000 PI. Duratron™ DFU7000 PI exhibits superior electrical and thermal insulation properties, as well as outstanding mechanical performance qualities for applications that demand higher temperature resistance. In addition, Duratron™ DFU7000 PI parts and near net shapes offer great chemical resistance, high strength and toughness and outstanding dimensional stability. For these reasons, Duratron™ DFU7000 PI is often seen as an ideal solution for designs meant to reduce weight, extend length of service before maintenance or replacement and reduce overall costs by increasing process uptime.

Material Properties and Benefits

- Improved thermal oxidative stability
- Lower moisture uptake and better dimensional stability vs. Duratron™ DF7000 PI
- Superior thermal and electrical insulation
- Outstanding mechanical performance and dimensional stability at high temperatures
- Great chemical resistance
- High strength and toughness

[Technical Datasheet](#) 



Available Geometries

 Rod  Plate

Available Colors

Yellow



Duratron™ DFU7015G PI

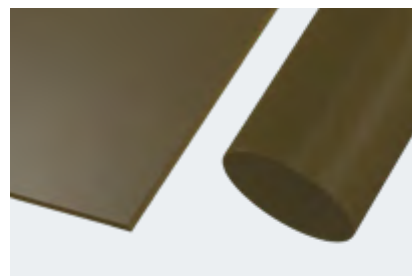
Polyimide

Duratron™ DFU7015G PI is a premium, bearing-grade polyimide that exhibits superior temperature and wear resistance qualities as well as a low coefficient of friction. Not only do direct-formed Duratron™ DFU7015G PI parts and near net shapes maintain their performance abilities with or without lubrication, they are also enhanced with 15% graphite for improved wear and friction behavior in bearing, bushing and seal applications involving high loads or speeds. In comparison to Duratron™ DF7015G, it has improved thermal-oxidative stability and better dimensional stability.

Material Properties and Benefits

- 15% graphite-filled for low friction and wear
- Superior temperature resistance
- High thermal oxidative stability
- Great dimensional stability

[Technical Datasheet](#) 



Available Geometries

Rod  Plate

Available Colors

Dark-green



Duratron™ DFU7040G PI

Polyimide

Duratron™ DFU7040G is a premium, bearing-grade PI that exhibits superior temperature and wear resistance qualities as well as a low coefficient of friction. Not only do direct-formed Duratron™ DFU7040G PI parts and near net shapes maintain their performance abilities with or without lubrication, they are also enhanced with 40% graphite to exhibit even lower wear and friction compared to Duratron™ DFU7015G -- making this grade the best choice for bearing, bushing and seal applications involving higher loads or speeds. In comparison to Duratron™ DF7040G, it has improved thermal-oxidative stability and better dimensional stability.

Material Properties and Benefits

- 40% graphite-filled for low friction and wear
- Superior temperature resistance
- High thermal oxidative stability
- Great dimensional stability

[Technical Datasheet](#) 



Available Geometries

 Rod  Plate

Available Colors

Dark-gray



Duratron™ T4203 PAI

Polyamide-Imide

Duratron™ T4203 PAI offers the most superior impact strength of all Duratron™ T polyamideimide grades, while also possessing the highest elongation in the entire Duratron™ family of products. Due to its intrinsic high-temperature resistance, dimensional stability and exceptional machinability, Duratron™ T4203 PAI is often used for precision parts in high-tech equipment. Its ability to bear high loads over a broad temperature range also makes it ideal for structural components such as linkages and seal rings, as well as an excellent choice for wear applications involving impact loading and abrasive wear.

Material Properties and Benefits

- Highest impact strength of all PAI materials
- Highest elongation PAI
- High-temperature resistance
- Excellent dimensional stability and machinability
- Load-bearing over wide range of temperatures

[Technical Datasheet](#) 



Available Geometries

 Rod  Plate
 Tubular bar

Available Colors

Yellow-brown



Duratron™ T4301 PAI

Polyamide-Imide

Duratron™ T4301 PAI is a graphite-filled polyamide-imide offers a very low expansion rate and coefficient of friction, exhibiting little to no stick-slip. The addition of PTFE and graphite provides higher wear resistance compared to the unfilled Duratron™ T4203 PAI grade and also gives Duratron™ T4301 PAI excellent dimensional stability capabilities over a wide temperature range. Duratron™ T4301 PAI's flexural modulus of 1,000,000 psi is higher than most other advanced engineering plastics, which allows it to excel in severe service wear applications such as non-lubricated bearings, seals, bearing cages and reciprocating compressor parts.

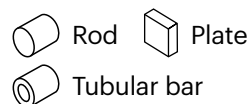
Material Properties and Benefits

- Low expansion rate
- Low coefficient of friction (COF), low stick-slip
- Higher wear resistance than unfilled grades
- Excellent dimensional stability over wide range of temperatures
- Flexural modulus of 1,000,000 psi

[Technical Datasheet](#) 



Available Geometries



Available Colors

Black



Duratron™ T4501 PAI

Polyamide-Imide

Duratron™ T4501 PAI possesses high compressive strength and excellent wear resistance, making it a great performer in general purpose wear and friction applications. This grade is similar in composition to Duratron™ T4301, offering a very high flexural modulus and exhibiting little to no stick-slip and is able to endure harsh thermal, chemical and stress conditions. Duratron™ T4501 PAI is a reliable solution for parts requiring larger dimensions and high compressive strength.

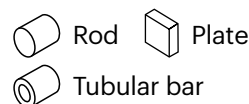
Material Properties and Benefits

- Available in larger geometries
- High compressive strength and flexural modulus
- Low wear and little to no stick-slip
- Suitable for harsh thermal, chemical and stress conditions

[Technical Datasheet](#) 



Available Geometries



Available Colors

Black



Duratron™ T4503 PAI

Polyamide-Imide

Compression-molded Duratron™ T4503 PAI shapes possess good electrical insulation properties and excellent dimensional stability qualities. This grade is commonly used for dies and patterns of formed metal parts or as thermal insulators. Similar in composition to Duratron™ T4203 PAI, it offers high toughness and impact strength for extreme applications where large dimensions are required such as dies, or as thermal insulators.

Material Properties and Benefits

- Excellent toughness and impact strength
- Good electrical insulation
- Excellent dimensional stability

Technical Datasheet 



Available Geometries

 Rod  Plate

Available Colors

Yellow-brown



Duratron™ T4540 PAI

Polyamide-Imide

Compression-molded Duratron™ T4540 PAI shapes were developed specifically for advanced fluid management industries for use in rotating equipment applications. As a sealing and bearing grade polyamideimide that offers a very low coefficient of friction and superior wear properties, typical applications for Duratron™ T4540 PAI include labyrinth seals, wear rings, bushings and bearings.

Material Properties and Benefits

- Very low coefficient of friction (COF)
- High rub tolerance
- Developed for use in rotating equipment

Technical Datasheet 



Available Geometries

 Tubular bar  Plate

Available Colors

Black



Duratron™ T7130 PAI

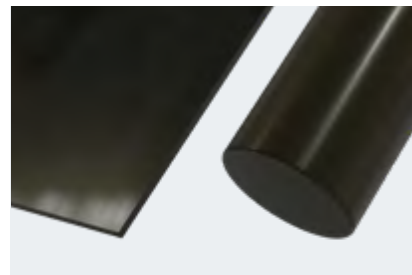
Polyamide-Imide

Duratron™ T7130 PAI is a 30% carbon fiber-reinforced polyamideimide grade that offers exceptional stiffness, non-abrasive wear performance and the lowest coefficient of thermal expansion of all PAI materials. These characteristics give Duratron™ T7130 PAI the ability to withstand high pressure environments in off-shore equipment applications, making this grade a reliable choice for long term performance requirements. It can be easily machined to the close tolerance that precision parts require.

Material Properties and Benefits

- 30% carbon fiber-reinforced
- Exceptional stiffness and dimensional stability
- Non-abrasive wear performance
- Lowest coefficient of thermal expansion (CTE)
- Chemically and creep resistant
- Inherent wear resistance and low coefficient of friction (COF)

Technical Datasheet 



Available Geometries

 Rod  Plate

Available Colors

Black



Duratron™ T7530 PAI

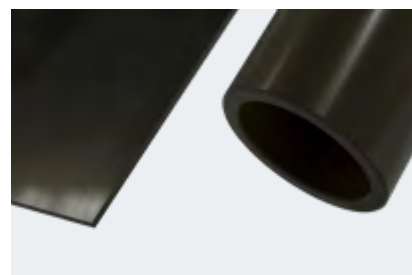
Polyamide-Imide

Duratron™ T7530 PAI is a compression-molded, 30% carbon fiber-reinforced polyamideimide with 1-5% PTFE that exhibits outstanding strength and stiffness in non-abrasive wear applications. Duratron™ T7530 PAI has the lowest coefficient of linear thermal expansion of all PAI materials, making it an ideal solution for applications that require exceptional dimensional stability and involve extreme temperatures.

Material Properties and Benefits

- 30% carbon fiber-reinforced
- Lowest coefficient of thermal expansion of all PAIs
- Outstanding strength and stiffness in non-abrasive wear applications

Technical Datasheet 



Available Geometries

 Tubular bar  Plate

Available Colors

Black



Duratron™ T5030 PAI

Polyamide-Imide

Duratron™ T5030 PAI offers high rigidity, retention of stiffness, a low expansion rate and outstanding load-carrying capabilities. As a 30% glass-reinforced polyamideimide material, this grade is ideal for structural applications within the semiconductor and electronics and aerospace industries. It is well suited for structural applications supporting static loads for long periods of time at high temperatures. In addition, Duratron™ T5030 PAI exhibits superb dimensional stability up to 260°C (500°F) making it extremely popular for precision parts in the electronical and semiconductor industries. The suitability of Duratron™ T5030 PAI for sliding parts, however, is to be carefully examined since the glass fibers tend to abrade the mating surface.

Material Properties and Benefits

- Chemically resistant
- Creep-resistant
- Dimensional stability
- High strength and stiffness
- Wear-resistant

Technical Datasheet 



Available Geometries

 Rod  Plate

Available Colors

Yellow brown



Duratron™ T5530 PAI

Polyamide-Imide

Duratron™ T5530 PAI is a compression-molded, 30% glass-reinforced material that offers high stiffness, strength and creep resistance. Although similar in composition to Duratron™ T5030 PAI, Duratron™ T5530 PAI comes in larger geometries, making it ideal for structural applications meant to support high static loads for extended periods of time, especially at high temperatures. Additionally, Duratron™ T5530 PAI exhibits superior dimensional stability up to 250°C (482°F), making it a favored solution for precision parts in the semiconductor and electronics industry.

Material Properties and Benefits

- 30% glass-reinforced
- High stiffness, strength and creep resistance
- High load-bearing capacity at high temperatures
- Superior dimensional stability up to 250°C (482°F)

Technical Datasheet 



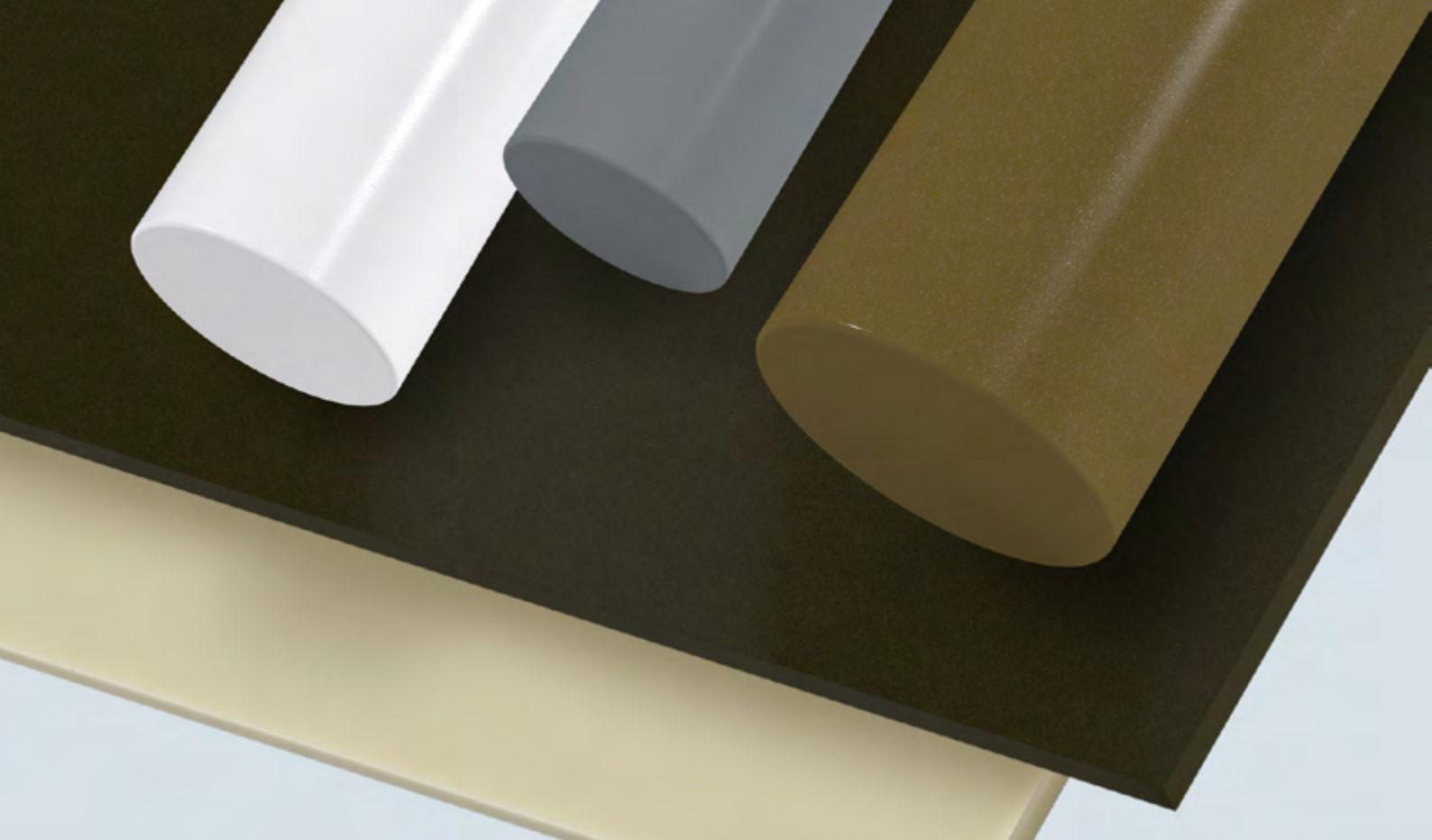
Available Geometries

 Rod  Plate
 Tubular bar

Available Colors

Yellow brown





Semitron™ PAI

Semitron™ PAI is a portfolio of polyamide-imide materials developed for extremely demanding applications in semiconductor and electronic device manufacturing, such as high voltage ranges, high temperatures, and vacuum chamber applications requiring high levels of ionic purity. Each product offers the exceptional mechanical and thermal properties of PAI, with special formulations to meet the stringent purity and voltage requirements of semiconductor manufacturing. From resisting dielectric breakdown and voltages ranging from 100V to 1000V, to low rates of outgassing and erosion in plasma chambers, Semitron™ PAI outlasts and outperforms other materials used in the semiconductor and electronics industry.

Semitron™ ESd 520HR PAI

Semitron™ MPR-1000 PAI

Availability of products, shapes, and colors may differ by region.

Semitron™ ESd 520HR PAI

Polyamide-Imide

Semitron™ ESd 520HR PAI is an electrostatic dissipative PAI material that possesses the unique ability to resist dielectric breakdown at high voltages. As a result, Semitron™ ESd 520HR PAI is the only Semitron™ grade that maintains its performance throughout the 100V to 1000V voltage range while also offering the mechanical performance needed to excel in demanding applications. This characteristic, combined with its high strength and heat resistance, make Semitron™ ESd 520HR PAI an ideal solution for test equipment and device handling applications within the semiconductor and electronics industry.

Material Properties and Benefits

- Resistant to dielectric breakdown from 100V to 1000V
- Electrostatic dissipative
- High mechanical strength
- High heat resistance

[Technical Datasheet](#) 



Available Geometries

 Plate

Available Colors

Black



Semitron™ MPR-1000 PAI

Polyamide-Imide

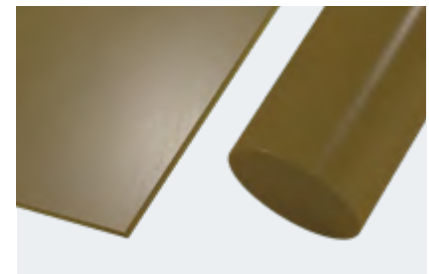
Semitron™ MPR-1000 PAI shapes possess excellent heat resistance and low rates of outgassing and erosion in plasma chambers. This high purity material with low ionic content is often chosen for vacuum chamber applications within etch, CVD and ion implant sub-segmentations in the semiconductor and electronics industry.

Semitron™ MPR-1000 PAI shows increased lifetime over traditional materials, for example up to 25x over polyimide in ozone in some cases. Due to its longevity, it is specified against traditional materials used in vacuum chamber applications such as quartz, ceramics, polyimides and other engineering plastics.

Material Properties and Benefits

- Low ionic content & low outgassing
- Excellent heat resistance
- Minimized rate of erosion in plasma chambers
- Optimal chip resistance, durability, and machinability
- Designed specifically for demanding chamber applications

[Technical Datasheet](#) 



Available Geometries

 Rod  Plate

Available Colors

Ochre





02 | Advanced engineering plastics

Semi-finished plastic products for challenging industrial applications

Our portfolio of advanced engineering plastics includes high-performance PEI, PEEK, PSU, PTFE and PPS products that can replace traditional materials like steel even in extreme operating environments of 120 - 230°C (250 - 450°F).



Ketron™ PEEK

The Ketron™ PEEK family of materials is based on semi-crystalline polyetheretherketone engineering material that exhibits a unique combination of high mechanical properties, temperature resistance and excellent chemical resistance – making it the most popular advanced plastics material. Our comprehensive portfolio of Ketron™ products offers formulations that build on the excellent performance attributes of PEEK to offer specific properties that excel in the most demanding applications. Our range of Ketron™ PEEK products includes carbon fiber and glass fiber-reinforced grades for improved mechanical characteristics, as well as grades offering internal lubrication, better load-carrying capabilities and food-contact suitability.

Ketron™ IM 1000 PEEK

Ketron™ 1000 PEEK

Ketron™ 1000 FG PEEK

Ketron™ 1000 NU PEEK

Ketron™ SP 1000 PEEK

Ketron™ CA30 PEEK

Ketron™ CM CA30 PEEK

Ketron™ SP CA30 PEEK

Ketron™ CM 1030HT PEK

Ketron™ CR-D PEEK

Ketron™ CR-S PEEK

Ketron™ FK 1000 FG PEEK

Ketron™ GF30 PEEK

Ketron™ CM GF30 PEEK

Ketron™ SP GF30 PEEK

Ketron™ HPV PEEK

Ketron™ HPV-G2 PEEK

Ketron™ CM HPV PEEK

Ketron™ SP HPV PEEK

Ketron™ TX PEEK

Ketron™ TX FG PEEK

Ketron™ VMX FG PEEK

Availability of products, shapes, and colors may differ by region.

Ketron™ IM 1000 PEEK

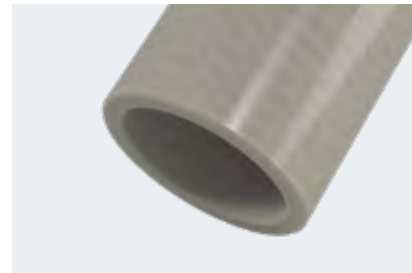
Poly-ether-ether-ketone

Ketron™ IM 1000 PEEK (injection molded) shapes offer excellent chemical, corrosion and wear resistance across a wide range of operating temperatures. Ideal for applications within the oil and gas industry, Ketron™ IM 1000 PEEK components are often specified for backup seal rings and v-seals. In addition to the widely used Ketron™ 1000 PEEK grade, several specific grades are available that incorporate glass or carbon fibers, or wear-resistant additives that increase the wear life of machined parts. It is easily machined and has unrivaled chemical resistance compared to all other advanced engineering materials. 30% glass fiber-filled and 30% carbon fiber-filled grades are available.

Material Properties and Benefits

- Carbon fiber-reinforced with graphite and PTFE lubricants
- Excellent wear resistance
- High limiting pressure velocity (LPV)
- High mechanical strength and stiffness
- Low coefficient of friction (COF)

Technical Datasheet 



Available Geometries

 Tubular bar

Available Colors

Natural (beige)



Ketron™ 1000 PEEK

Poly-ether-ether-ketone

Ketron™ 1000 PEEK is an unfilled, general purpose polyetheretherketone grade that offers the highest elongation and toughness of all materials in the PEEK family. Ideal for instrument and seal components, where ductility and inertness are critical, Ketron™ 1000 PEEK shapes are known for their ability to fit within a variety of applications and industries.

Material Properties and Benefits

- Offers highest elongation and toughness of all materials in the PEEK family
- Ideal for applications where ductility and inertness are critical
- Excellent chemical resistance
- Steam and wear resistant

Technical Datasheet 



Available Geometries

 Rod  Plate
 Tubular bar

Available Colors

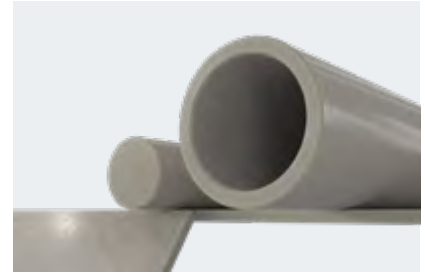
Natural (beige), Black



Ketron™ 1000 FG PEEK

Poly-ether-ether-ketone

Ketron™ 1000 FG PEEK (Food Grade) is a EU 10/2011 and FDA compliant, unfilled general purpose polyetheretherketone grade that offers the highest elongation and toughness of all materials in the PEEK family. Ideal for instrument and seal components, where ductility and inertness are critical, Ketron™ 1000 FG PEEK shapes are known for their ability to fit within a variety of applications and industries.

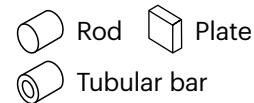


Material Properties and Benefits

- Food Grade EU 10/2011 and FDA compliant
- Highest elongation and toughness of all materials in the PEEK family
- Ideal for where ductility and inertness are critical
- Ideal for a variety of applications and industries
- Can assist food & beverage processors in replacing metal parts

Technical Datasheet 

Available Geometries



Available Colors

Natural (beige), Black



Ketron™ 1000 NU PEEK

Poly-ether-ether-ketone

Ketron™ 1000 NU PEEK is an unfilled polyetheretherketone grade that offers the highest elongation and toughness of all PEEK materials. Ketron™ 1000 NU PEEK is PMUC-certified and has passed stringent tests by an EDF-approved laboratory to meet PMUC requirements for use on nuclear sites. Each shipment is accompanied by a PMUC certificate including production batch number. MCG offers a range of engineering stock shape products that hold PMUC approval from third party certified laboratories in France. PMUC is the standard for products and materials used in electric, nuclear and thermal power plants.

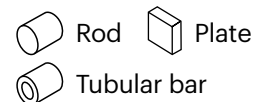


Material Properties and Benefits

- PMUC-approved for use in nuclear power plants
- High strength and stiffness up to 160°C (320°F)
- Excellent chemical resistance
- Highest elongation and toughness of all PEEK grades
- Thermal performance to 248°C (480°F)
- Inherently good wear and abrasion resistance

Technical Datasheet 

Available Geometries



Available Colors

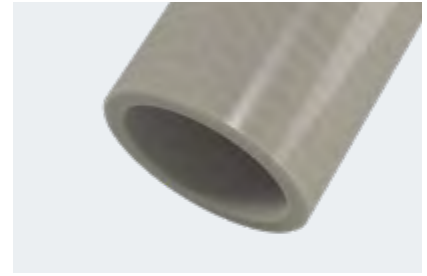
Natural (beige)



Ketron™ SP 1000 PEEK

Poly-ether-ether-ketone

Ketron™ SP 1000 PEEK stock shapes are produced from virgin polyetheretherketone resin and offer the highest toughness and impact strength of all Ketron™ SP PEEK grades. Both Ketron™ SP 1000 PEEK natural and black can be sterilized by all conventional sterilization methods (steam, dry heat, ethylene oxide and gamma irradiation).



Material Properties and Benefits

- Highest toughness and impact strength
- Abrasion resistant
- Excellent chemical resistance
- Low moisture absorption
- Unaffected by continuous exposure to hot water or steam

Technical Datasheet 

Available Geometries

 Tubular bar

Available Colors

Natural (beige), Black



Ketron™ CA30 PEEK

Poly-ether-ether-ketone

Ketron™ CA30 PEEK is a 30% carbon fiber-reinforced polyetheretherketone grade that exhibits even higher stiffness, mechanical strength and creep and wear resistance than Ketron™ GF30 PEEK. With a significantly reduced thermal expansion, optimum load-carrying capabilities and high thermal conductivity rates, Ketron™ CA30 PEEK components are often favored for their ability to extend part life and rapidly dissipate heat in bearing applications.



Material Properties and Benefits

- Abrasion resistant
- Outstanding chemical and wear resistance
- Reduced thermal expansion
- Ability to extend part life and rapidly dissipate heat
- Optimum load-carrying capabilities

Technical Datasheet 

Available Geometries

 Rod  Plate
 Tubular bar

Available Colors

Black



Ketron™ CM CA30 PEEK

Poly-ether-ether-ketone

Ketron™ CM CA30 PEEK is a compression-molded, 30% carbon fiber-reinforced polyetheretherketone that exhibits outstanding impact, corrosion, chemical and wear resistance. With a significantly reduced thermal expansion, optimum load-carrying capabilities and high thermal conductivity rates, Ketron™ CM CA30 PEEK components are often favored for their ability to extend part life and rapidly dissipate heat in bearing applications. Ketron™ CM CA30 PEEK shapes also excel in large parts applications, where high strength and stiffness are required.

Material Properties and Benefits

- 30% carbon fiber-reinforced
- Outstanding resistance to impact, chemical corrosion and wear
- Low thermal expansion
- Optimum load-carrying capabilities
- High thermal conductivity rates
- Rapid heat dissipation in bearing applications

Technical Datasheet 



Available Geometries

 Plate  Tubular bar

Available Colors

Black



Ketron™ SP CA30 PEEK

Poly-ether-ether-ketone

Ketron™ SP CA30 PEEK is a 30% carbon fiber-reinforced grade that combines high stiffness, mechanical strength and creep resistance with optimum wear resistance. This grade provides more thermal conductivity than unreinforced PEEK, increasing heat dissipation from bearing surfaces and improving bearing life and pressure velocity capabilities.

Material Properties and Benefits

- Abrasion resistant
- Excellent chemical resistance
- High strength
- Outstanding wear resistance
- Steam resistant

Technical Datasheet 



Available Geometries

 Tubular bar

Available Colors

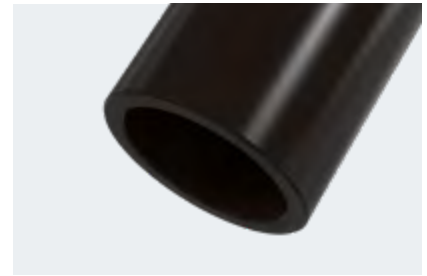
Black



Ketron™ CM 1030HT PEK

Poly-ether-ketone

Ketron™ CM 1030HT is a 30% carbon-filled PEK that offers an heat deflection temperature of 230°C (450°F). This material provides added stiffness at high temperatures, is carbon-filled for added strength and stiffness, offers good dimensional stability and excellent chemical and corrosion resistance. Typically applications for this material include labyrinth seals, backup rings, valve seats and line shaft bearings.



Material Properties and Benefits

- High heat resistance (heat deflection temperature of 230°C (450°F))
- Excellent strength and stiffness
- Chemical and corrosion resistance
- Good dimensional stability
- Wear resistant

Technical Datasheet 

Available Geometries

 Tubular bar

Available Colors

Black



Ketron™ CR-D PEEK

Poly-ether-ether-ketone

Ketron™ CR-D PEEK is a filled polyetheretherketone material carefully engineered to exhibit unique properties needed for dynamic sealing applications in extreme cold, including cryogenic environments. The material's extreme durability ensures it can withstand exposure to temperatures as cold as -196°C (-320°F) without compromising its strength, ductility, toughness and resilience. The material has an extremely low coefficient of friction, making it an excellent option for ball valves, dynamic seals and gaskets at cryogenic temperatures.



Material Properties and Benefits

- D = for dynamic sealing applications
- Filled polyether-ether-ketone material (contains minor amounts of PTFE)
- Unique properties for dynamic sealing applications in extreme cold, including cryogenic environments up to temperatures of -196°C (-320.8°F)
- No compromise on excellent strength, ductility, toughness and resilience
- Slightly better thermal properties than Ketron™ CR-S
- Lower static and dynamic coefficient of friction (COF) which allows lower torque, cost savings in actuators
- Lower leakage rates in valve seat applications

Technical Datasheet 

Available Geometries

 Rod  Plate
 Tubular bar

Available Colors

Green



Ketron™ CR-S PEEK

Poly-ether-ether-ketone

Ketron™ CR-S PEEK is a polyetheretherketone material carefully engineered to exhibit unique properties needed for static sealing applications in extreme cold, including cryogenic environments. The material's extreme durability ensures it can withstand exposure to temperatures as cold as -196°C (-320°F) without compromising its excellent tensile strength and a low compressive modulus. Additionally, Ketron™ CR-S PEEK has a PFAS-free formulation, making it an excellent substitute for fluoropolymer seals.

Material Properties and Benefits

- S = for static applications
- Unique properties for static sealing applications in extreme cold, including cryogenic environments
- Extremely durable; improved ductility at -196°C (-320.8°F)
- Higher tensile elongation and slightly lower compressive modulus (e.g. static seals)
- Ketron™ CR-S is tougher than Ketron™ CR-D at low temperature
- PFAS-free* formulation, making it an excellent substitute for fluoropolymer sealings

(*PFAS-free raw material as confirmed by resin supplier; no PFAS substances added during stock shapes manufacturing)

Technical Datasheet 

Ketron™ FK 1000 FG PEEK

Poly-ether-ether-ketone

Ketron™ FK 1000 FG PEEK (Food Grade) is a EU 10/2011 and FDA compliant, unfilled general purpose grade that offers the highest elongation and toughness of all materials in the PEEK family. Ideal for instrument and seal components, where ductility and inertness are critical, Ketron™ FK 1000 FG PEEK shapes are known for their ability to fit within a variety of applications and industries.

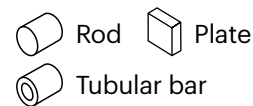
Material Properties and Benefits

- Victrex 450G™ resin-specified PEEK with reliable and consistent physical characteristics
- Food Grade and EU 10/2011 and FDA compliant
- Offers highest elongation and toughness of all materials in the PEEK family
- Ideal for applications where ductility and inertness are critical
- Excellent chemical resistance
- Steam and wear resistant

Technical Datasheet 



Available Geometries

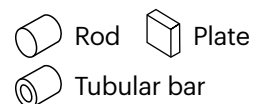


Available Colors

Natural (beige)



Available Geometries



Available Colors

Natural (beige)



Ketron™ GF30 PEEK

Poly-ether-ether-ketone

Ketron™ GF30 PEEK is an extruded, 30% glass fiber-reinforced polyetheretherketone grade with excellent dimensional stability and outstanding chemical, corrosion and creep resistance. With the addition of glass fibers, Ketron™ GF30 PEEK has a significantly low expansion rate and high flexural modulus. In addition to these characteristics, Ketron™ GF30 PEEK is often favored for structural applications that require improved strength, stiffness, or stability, especially at temperatures above 150°C (300°F).

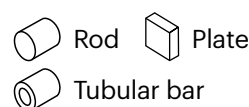
Material Properties and Benefits

- Favored for structural applications that require improved strength, stiffness, or stability, especially at temperatures above 150°C (300°F)
- High flexural modulus
- Excellent wear resistance and toughness
- Low expansion rate
- Abrasion resistant
- Outstanding dimensional stability

Technical Datasheet 



Available Geometries



Available Colors

Natural (beige)



Ketron™ CM GF30 PEEK

Poly-ether-ether-ketone

Ketron™ CM GF30 PEEK is a compression-molded, 30% glass fiber-reinforced polyetheretherketone grade with excellent dimensional stability and outstanding chemical, corrosion and creep resistance. With the addition of glass fibers, Ketron™ CM GF30 PEEK has a significantly low expansion rate and high flexural modulus. In addition to these characteristics, Ketron™ CM GF30 PEEK is often favored for structural applications that require improved strength, stiffness, or stability, especially at temperatures above 150°C (300°F).

Material Properties and Benefits

- Compression-molded
- Favored for structural applications that require improved strength, stiffness, or stability, especially at temperatures above 150°C (300°F)
- High flexural modulus
- Excellent wear resistance and toughness
- Low expansion rate
- Abrasion resistant
- Outstanding dimensional stability

Technical Datasheet 



Available Geometries



Available Colors

Natural (beige)



Ketron™ SP GF30 PEEK

Poly-ether-ether-ketone

Ketron™ SP GF30 PEEK 30% glass fiber-reinforced grade and offers higher stiffness and creep resistance than Ketron™ SP 1000 PEEK and has better dimensional stability. This grade is appropriate for structural applications carrying high static loads for long periods of time at elevated temperatures. Ketron™ SP GF30 PEEK is suitable for sliding parts but should be carefully examined as the glass fibers tend to abrade the mating surface.

Material Properties and Benefits

- 30% glass fiber-reinforced
- Good dimensional stability
- Abrasion resistant
- Excellent chemical resistance
- Outstanding wear resistance
- Steam resistant

Technical Datasheet 



Available Geometries

 Tubular bar

Available Colors

Natural (beige)



Ketron™ HPV PEEK

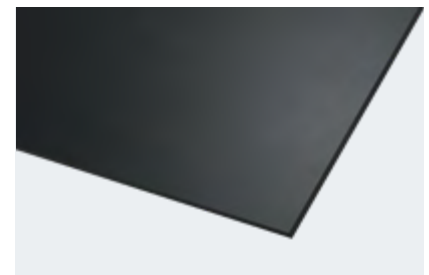
Poly-ether-ether-ketone

Ketron™ HPV PEEK shapes are carbon fiber-reinforced polyetheretherketone materials with graphite and PTFE lubricants, giving them the lowest coefficient of friction and the best machinability of all PEEK materials. Due to Ketron™ HPV PEEK's combination of low wear and friction and high LPV (limiting pressure velocity), this grade is often chosen as a solution for service bearings, bushings, insulators, valves and seals.

Material Properties and Benefits

- Carbon fiber-reinforced with graphite and PTFE lubricants
- Excellent wear resistance
- High limiting pressure velocity (LPV)
- High mechanical strength and stiffness
- Low coefficient of friction (COF)

Technical Datasheet 



Available Geometries

 Plate

Available Colors

Black



Ketron™ HPV-G2 PEEK

Poly-ether-ether-ketone

Ketron™ HPV-G2 PEEK provides an alternative to Ketron™ HPV PEEK, based on non-fluorinated* chemistries and a manufacturing process that does not intentionally add per- and polyfluoroalkyl substances (PFAS), as defined in the Annex XV restriction proposal published on 22nd March 2023. *(Based on information provided by our raw material suppliers, and on knowledge of our finished product compositions.)

Due to Ketron™ HPV-G2 PEEK's combination of low wear and friction and high LPV, this grade can offer a solution for service bearings, bushings, insulators, valves and seals.

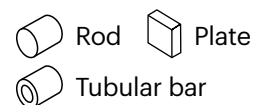
Material Properties and Benefits

- Processed from non-fluorinated chemistries and manufactured without intentionally adding per- and polyfluoroalkyl substances (PFAS)
- Excellent wear resistance
- High limiting pressure velocity (LPV)
- High mechanical strength and stiffness
- Low coefficient of friction (COF)

[Technical Datasheet](#) 



Available Geometries



Available Colors

Black



Ketron™ CM HPV PEEK

Poly-ether-ether-ketone

Ketron™ CM HPV PEEK is a range of compression-molded and carbon fiber-reinforced PEEK shapes containing graphite and PTFE lubricants. This premium PEEK grade has the lowest coefficient of friction and the best machinability of all PEEK materials. Ketron™ CM HPV PEEK exhibits a combination of excellent wear properties and a high limiting pressure velocity, making this material an ideal solution for demanding service bearings, bushings, insulators, valves and seals.

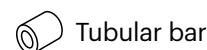
Material Properties and Benefits

- Carbon fiber-reinforcement for best machinability
- Lowest friction PEEK available
- High limiting pressure velocity
- Internal graphite and PTFE lubricants

[Technical Datasheet](#) 



Available Geometries



Available Colors

Black



Ketron™ SP HPV PEEK

Poly-ether-ether-ketone

Ketron™ SP HPV PEEK bearing grade is reinforced with carbon fiber, graphite and PTFE lubricants. With the lowest coefficient of friction and the best machinability for all PEEK grades, it is an excellent combination of low friction, low wear, high LPV (limiting pressure velocity), low mating part wear and easy machining. This makes it ideal for aggressive service bearings, bushings, rollers and thrust washers.

Material Properties and Benefits

- Wear resistant
- High limiting pressure velocity (LPV) value
- High mechanical strength and stiffness
- Extremely low coefficient of friction (COF)
- Excellent machinability

[Technical Datasheet](#) 



Available Geometries

 Tubular bar

Available Colors

Black



Ketron™ TX PEEK

Poly-ether-ether-ketone

Ketron™ TX PEEK is an internally lubricated premium grade that offers improved wear and frictional performance over virgin PEEK. Often favored for applications where extreme performance temperatures, critical tolerances or frictional heat are required, Ketron™ TX PEEK components extend wear and part life by lowering the coefficient of friction over standard PEEK.

Material Properties and Benefits

- Internally lubricated for reduced friction
- Resistant to extreme temperatures and frictional heat
- Suitable for applications with critical tolerances

[Technical Datasheet](#) 



Available Geometries

 Rod  Plate

Available Colors

Blue



Ketron™ TX FG PEEK

Poly-ether-ether-ketone

Ketron™ TX FG PEEK (Food Grade) is an internally lubricated, EU 10/2011 and FDA compliant polyetheretherketone grade that offers improved wear and frictional performance over virgin PEEK. Often favored for food and beverage processing and pharmaceutical applications where extreme performance temperatures, critical tolerances, or low frictional heat are required, Ketron™ TX FG PEEK components extend wear and part life by lowering the coefficient of friction over standard PEEK.

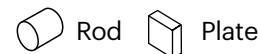
Material Properties and Benefits

- Internally lubricated
- Excellent chemical resistance and fatigue strength
- EU 10/2011 and FDA compliant
- Withstands extreme performance temperatures, critical tolerances or low frictional heat

[Technical Datasheet](#) 



Available Geometries



Available Colors

Blue



Ketron™ VMX FG PEEK

Poly-ether-ether-ketone

Ketron™ VMX FG PEEK (Food Grade) is an EU 10/2011 and compositional FDA 21 CFR § 177.2415 compliant material that offers extreme dimensional stability and high strength and temperature resistance. Visual, metal and x-ray detectable, Ketron™ VMX FG PEEK shapes can be easily traced by conventional metal and x-ray detection systems, allowing global food processors to safely avoid costly recalls caused by foreign contamination. Due to their superior resistance to wear and corrosion, Ketron™ VMX FG PEEK components are favored for applications in the food processing and packaging industry such as pistons, manifolds, valves and mixing vessels.

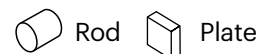
Material Properties and Benefits

- Three-way detectability: visual, metal, x-ray
- Suitable for food-approved parts requiring high stiffness without reinforcements
- Can withstand temperatures higher than 130°C (266°F)
- Resistant to steam
- High dimensional stability for high-precision parts
- Enhanced impact-stiffness-ratio
- Highly visible blue color

[Technical Datasheet](#) 



Available Geometries



Available Colors

Blue





Techtron™ PPS

Techtron™ PPS (polyphenylene sulfide) products close the price and performance gaps between standard and advanced engineering thermoplastics. Our range of Techtron™ PPS materials offers the broadest resistance to chemicals of any advanced engineering plastic. They have no known solvents below 200°C (392°F) and offer inertness to steam, strong bases, fuels and acids. Minimal moisture absorption and a very low coefficient of linear thermal expansion, combined with stress relieving processes, make these PPS products ideally suited for precise tolerance machined components. In addition, Techtron™ PPS products exhibit excellent electrical characteristics and are inherently flame retardant. These materials are an excellent alternative to PEEK at lower temperatures.

Techtron™ 1000 PPS

Techtron™ GF40 PPS

Techtron™ HPV PPS

Techtron™ HPV FG PPS

Techtron™ PSBG PPS

Techtron™ PSGF PPS

Availability of products, shapes, and colors may differ by region.

Techtron™ 1000 PPS

Polyphenylene Sulfide

Shapes made from Techtron™ 1000 PPS exhibit outstanding dimensional stability due to their minimal moisture absorption and low coefficient of linear thermal expansion. Due to these characteristics, this polyphenylene sulfide is easy to machine to close to precise tolerances and is ideal for structural applications in corrosive environments.

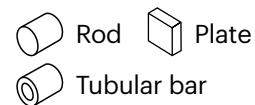


Material Properties and Benefits

- Minimal moisture absorption
- Low coefficient of linear thermal expansion (CLTE)
- Easy to machine to tight tolerances
- Suitable for structural applications in corrosive environments

Technical Datasheet 

Available Geometries



Available Colors

Natural (off-white)



Techtron™ GF40 PPS

Polyphenylene Sulfide

Techtron™ GF40 PPS is a 40% glass fiber-reinforced grade that exhibits higher stiffness and creep resistance than other PPS grades. Because of its improved dimensional stability, this grade excels in structural applications involving a high static load, even for long periods of time and at elevated temperatures. While the glass fiber reinforcement improves the dimensional stability of the material, this additive can abrade mating surfaces in sliding parts.

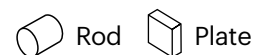


Material Properties and Benefits

- 40% glass fiber-reinforced
- Higher creep resistance and stiffness compared with unfilled PPS
- Excellent dimensional stability
- Appropriate for long-term high static loads, high temperatures

Technical Datasheet 

Available Geometries



Available Colors

Black



Techtron™ HPV PPS

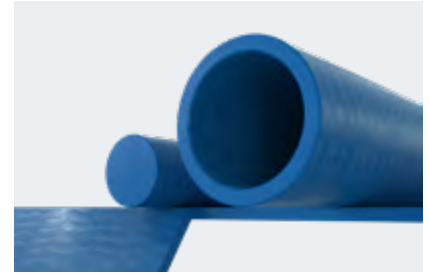
Polyphenylene Sulfide

Techtron™ HPV PPS shapes offer superior wear resistance, outstanding chemical and hydrolysis resistance, excellent dimensional stability, great electrical insulating and dielectric properties, a low coefficient of friction and inherently low flammability. As a glass fiber-reinforced, internally lubricated grade, Techtron™ HPV PPS closes the gap in performance and price, between standard thermoplastics and advanced engineering plastics. For this reason, this versatile grade of polyphenylene sulfide is great for wear components such as bushings and bearings, CIP wash down parts and pump, valve and compressor applications throughout the aerospace, food processing and oil and gas industries.

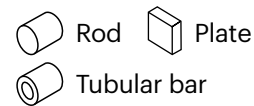
Material Properties and Benefits

- Internal lubrication for low friction
- Glass fiber-reinforced
- Excellent resistance to wear, hydrolysis and chemicals
- Electrically insulating with great dielectric properties
- Inherently low flammability

Technical Datasheet 



Available Geometries



Available Colors

Blue



Techtron™ HPV FG PPS

Polyphenylene Sulfide

Techtron™ HPV FG PPS (Food Grade) is an internally lubricated, EU 10/2011 and FDA compliant PPS material that offers superior wear resistance, outstanding chemical and hydrolysis resistance, excellent dimensional stability, great electrical insulating and dielectric properties, a low coefficient of friction and inherently low flammability. As a reinforced, internal lubricant-filled grade, Techtron™ HPV FG PPS closes the gap in performance and price between standard thermoplastics and advanced engineering plastics. For this reason, this versatile grade is ideal for wear components such as bushings and bearings, CIP wash down parts and pump, valve and compressor applications throughout the aerospace, food processing and oil and gas industries.

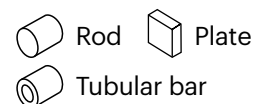
Material Properties and Benefits

- Self-lubricating with a low coefficient of friction (COF) for superior wear resistance
- EU 10/2011 and FDA compliant
- Outstanding chemical and hydrolysis resistance
- Excellent dimensional stability
- Great electrical insulating and dielectric properties
- Inherently low flammability

Technical Datasheet 



Available Geometries



Available Colors

Blue



Techtron™ PSBG PPS

Polyphenylene Sulfide

Techtron™ PSBG PPS compression-molded shapes are internally lubricated and carbon fiber-reinforced, allowing them to exhibit excellent wear resistance, outstanding dimensional stability and extreme chemical and corrosion resistance. This grade in particular possesses the lowest coefficient of linear thermal expansion of all Techtron™ PPS Grades, allowing it to excel in wear applications where an electrically conductive material is required. Other application examples include bushings and bearings, lantern rings and pump wear components throughout the oil and gas industry.

Material Properties and Benefits

- Easily machined to close tolerances
- Internally lubricated
- Carbon fiber-reinforced
- Excellent wear resistance
- Dimensionally stable
- Extreme chemical and corrosion resistance

[Technical Datasheet](#) 



Available Geometries

 Rod

Available Colors

Black



Techtron™ PSGF PPS

Polyphenylene Sulfide

Techtron™ PSGF PPS shapes are compression-molded and glass-filled, giving them extreme dimensional stability as well as improved chemical and corrosion resistance over unfilled polyphenylene sulfide materials. Due to these improved performance characteristics, Techtron™ PSGF PPS is often chosen as a solution for applications involving critical sealing and structural components, such as pump housings, valves and compressors within the oil and gas industry.

Material Properties and Benefits

- Compression-molded, 40% glass-filled
- Improved dimensional stability over unfilled PPS
- Improved chemical and corrosion resistance
- Maintains its strength to above 220°C (425°F)

[Technical Datasheet](#) 



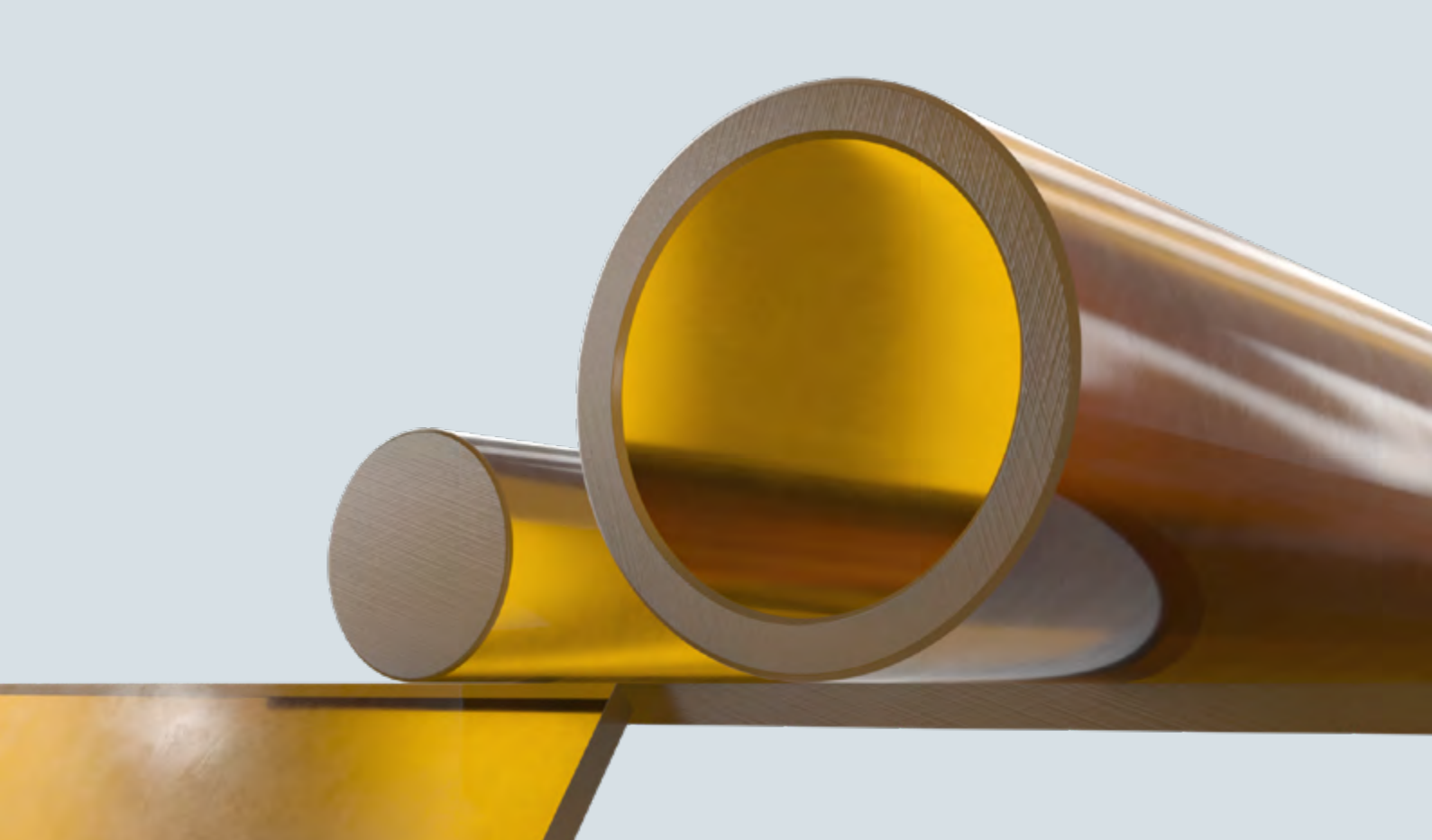
Available Geometries

 Plate  Tubular bar

Available Colors

Gray





Sultron™ PSU

Sultron™ PSU is a family of polysulfone products that offer high chemical resistance to acidic and salt solutions, and good resistance to detergents, hot water and steam. In addition, polysulfone has excellent radiation stability, and offers low ionic impurity levels.

Sultron™ PSU

Availability of products, shapes, and colors may differ by region.

Sultron™ PSU

Polysulfone

Sultron™ PSU is a translucent polysulfone material that offers a combination of excellent mechanical, thermal and electrical properties. This grade often replaces polycarbonate whenever higher temperature resistance, improved chemical resistance, or autoclavability is required. Sultron™ PSU shapes are ideal for analytical instrumentation and semiconductor process equipment components due to their outstanding radiation stability and resistance to acidic and salt solutions, detergents, hot water and steam.

Material Properties and Benefits

- Broad temperature range capability
- Good thermal and electrical insulation characteristics
- Hydrolysis resistance
- Radiation stability
- Excellent mechanical properties

[Technical Datasheet](#) 



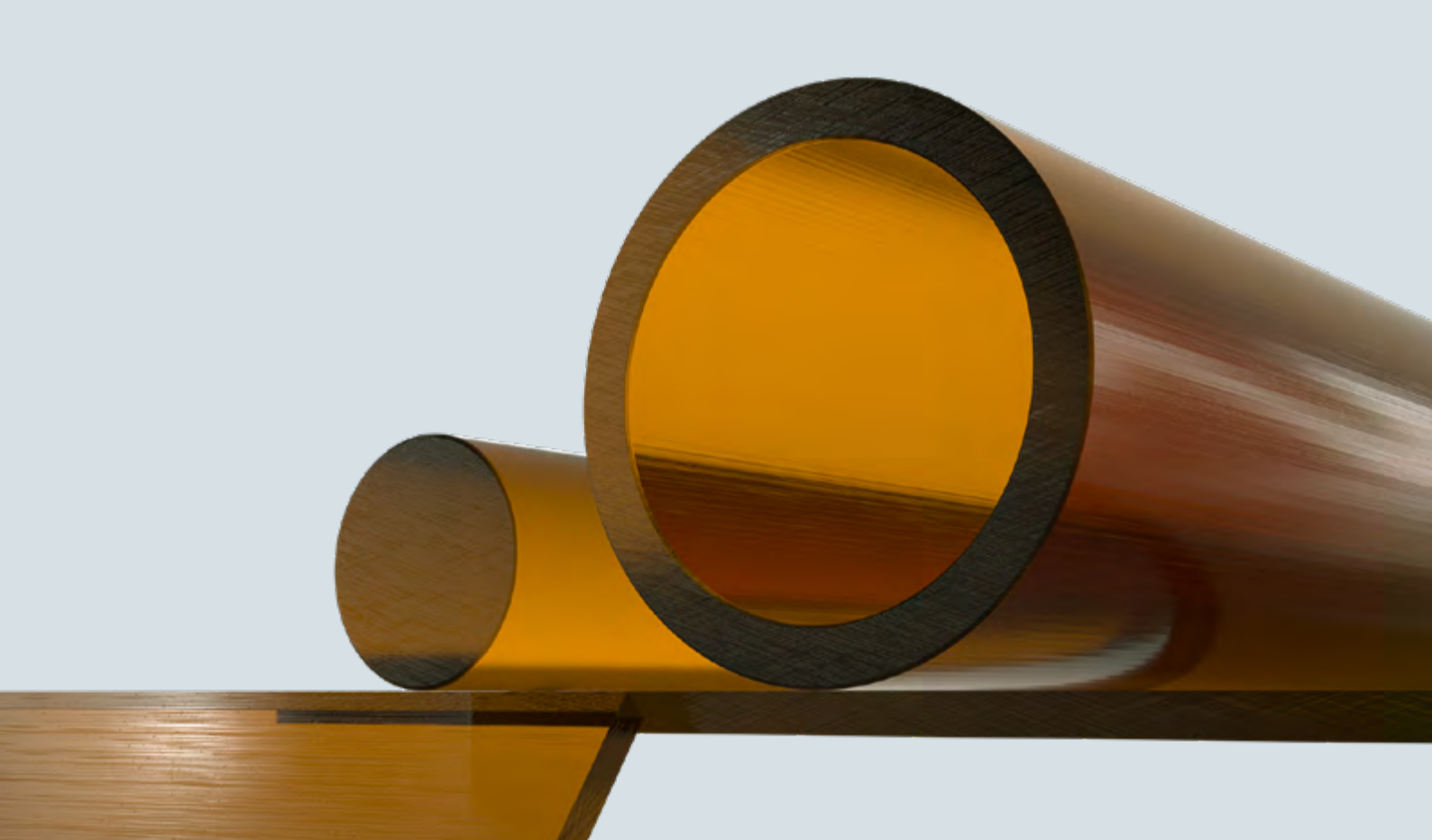
Available Geometries

 Rod  Plate

Available Colors

Amber-translucent





Duratron™ PEI

Duratron™ PEI (polyetherimide) is a family of amber-transparent high-performance polymers that combine high strength and rigidity at elevated temperatures with long-term heat resistance. PEI offers excellent dimensional stability combined with broad chemical resistance. Duratron™ PEI grades are commonly machined into parts for reusable medical devices, analytical instrumentation, electrical/electronic insulators (including many semiconductor process components) and a variety of structural components requiring high strength and rigidity at elevated temperatures. Mitsubishi Chemical Group offers Duratron™ U1000 PEI and Duratron™ U2300 PEI as standard products.

Duratron™ U1000 PEI

Duratron™ U2100 PEI

Duratron™ U2200 PEI

Duratron™ U2300 PEI

Availability of products, shapes, and colors may differ by region.

Duratron™ U1000 PEI

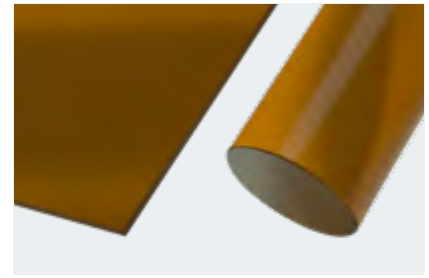
Polyetherimide

Duratron™ U1000 are amorphous PEI (polyetherimide) shapes that exhibit high strength, dimensional stability and superior flame and heat resistance. Due to this grade's ability to perform continuously to 170°C (340°F), Duratron™ U1000 PEI is the ideal solution for applications that require consistent dielectric properties over a wide frequency range. Another strength of Duratron™ U1000 PEI shapes are their hydrolysis and chemical resistance, enabling them to withstand repeated autoclaving cycles in medical, pharmaceutical and biotechnology markets.

Material Properties and Benefits

- High strength and dimensional stability
- Superior flame and heat resistance
- Consistent dielectric properties over wide frequency range
- Hydrolysis and chemical resistance
- Holds up to repeated autoclaving cycles

[Technical Datasheet](#) 



Available Geometries

 Rod  Plate

Available Colors

Amber-translucent



Duratron™ U2100 PEI

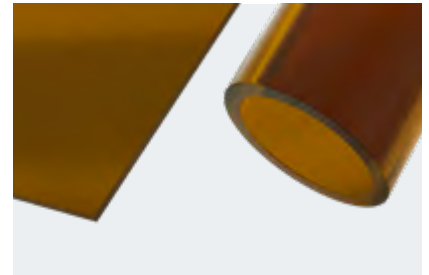
Polyetherimide

Duratron™ U2100 PEI shapes are 10% glass-reinforced, giving them greater rigidity and dimensional stability over Duratron™ U1000 PEI. Furthermore, the material shows a low coefficient of linear thermal expansion. With an excellent strength-to-weight ratio and high tensile strength, this polyetherimide grade is ideal for semiconductor and electronics applications.

Material Properties and Benefits

- 10% glass-reinforced for higher rigidity and dimensional stability
- High strength
- Excellent flame and heat resistance
- Consistent dielectric properties over wide frequency range
- Resistant to hydrolysis and acidic solutions
- Suitable for repeated autoclaving

[Technical Datasheet](#) 



Available Geometries

 Plate  Tubular bar

Available Colors

Amber-translucent



Duratron™ U2200 PEI

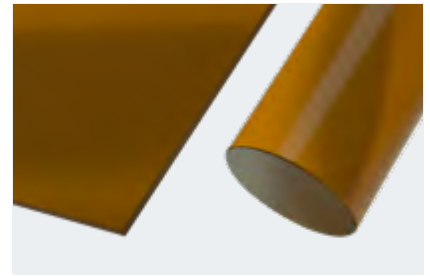
Polyetherimide

Duratron™ U2200 PEI shapes are 20% glass-reinforced, giving them exceptional rigidity and dimensional stability, high temperature resistance and a low coefficient of linear thermal expansion. With an exceptional strength-to-weight ratio and increased tensile strength, this polyetherimide grade is also a great electrical insulator for semiconductor and electronics applications.

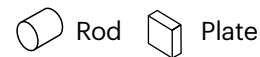
Material Properties and Benefits

- 20% glass-reinforced
- High strength and performs in continuous use to 170°C (340°F)
- Exceptional rigidity and dimensional stability
- Low Coefficient of Linear Thermal Expansion (CLTE)

[Technical Datasheet](#) 



Available Geometries



Available Colors

Brown



Duratron™ U2300 PEI

Polyetherimide

Duratron™ U2300 PEI is a flame resistant polyetherimide that is 30% glass-reinforced, allowing this grade to exhibit the highest rigidity, strength, dimensional stability and heat resistance of all Duratron™ PEI shapes. Possessing the lowest coefficient of linear thermal expansion (CLTE), superior strength-to-weight ratio and tensile strength, this grade is favored as a solution for reusable medical devices, analytical instruments, electrical insulators, semiconductor process components and structural components that require high strength and rigidity at elevated temperatures.

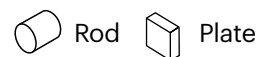
Material Properties and Benefits

- Acid and steam resistance
- High strength and rigidity at elevated temperatures
- Dimensionally stable
- 30% glass-reinforced
- Possesses the lowest coefficient of linear thermal expansion (CLTE)

[Technical Datasheet](#) 



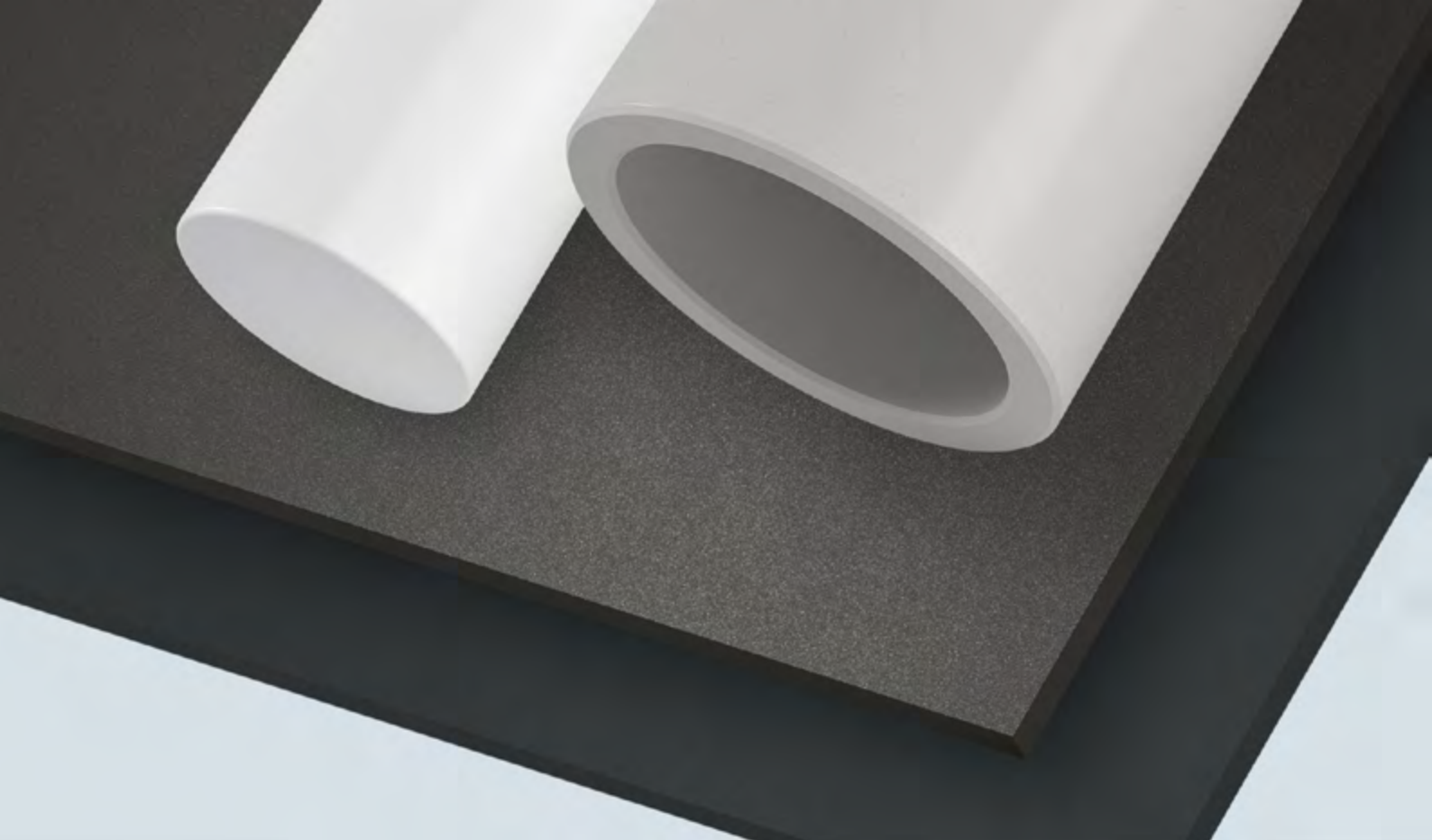
Available Geometries



Available Colors

Beige, Black





Fluorosint™ PTFE

The Fluorosint™ range of enhanced PTFE materials was developed to fill the performance gaps where unfilled as well as low-tech, filled PTFE-based polymers underperform. Fluorosint™ materials are specifically designed to excel in demanding bearing and seal applications. While each Fluorosint™ grade possesses the great chemical resistance and compliance of standard PTFE, each material offers unique properties resulting from our proprietary process in which we chemically link synthetically manufactured mica to virgin PTFE. These enhancements give individual Fluorosint™ grades superior performance properties, ranging from outstanding dimensional stability, to improved wear performance, to higher load-bearing capabilities.

Fluorosint™ 135 PTFE

Fluorosint™ 207 PTFE

Fluorosint™ 500 PTFE

Fluorosint™ HPV PTFE

Availability of products, shapes, and colors may differ by region.

Fluorosint™ 135 PTFE

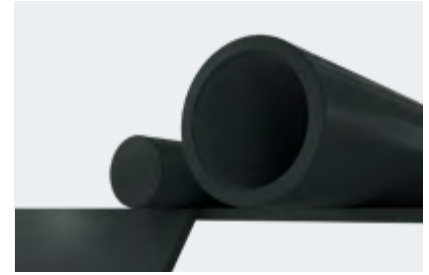
Polyetherimide

Fluorosint™ 135 PTFE material is formulated to provide the lowest coefficient of friction and deformation for use in demanding seal, bearing and washer applications. This grade also possesses excellent strength, stiffness and high-pressure velocity capabilities. Additionally, Fluorosint™ 135 PTFE exhibits high mechanical performance at elevated temperatures, making this grade ideal for wear applications where extreme conditions are present.

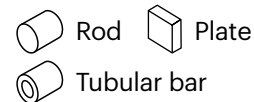
Material Properties and Benefits

- Lowest possible coefficient of friction (COF) and deformation
- Excellent strength and stiffness
- High pressure velocity capabilities
- High mechanical performance at elevated temperatures

Technical Datasheet 



Available Geometries



Available Colors

Black



Fluorosint™ 207 PTFE

Polyetherimide

Fluorosint™ 207 PTFE is a food contact-compliant grade of polytetrafluoroethylene with a unique combination of dimensional stability and creep resistance, exceptional sliding and wear properties and outstanding chemical and hydrolysis resistance. Possessing the lowest coefficient of friction of all Fluorosint™ materials, Fluorosint™ 207 PTFE shapes excel in food, pharmaceutical and chemical processing industries, especially for aggressive service bearing and bushing applications. It is also a preferred material for lower pressure seats and seals, where virgin PTFE fails and food contact compliance may be required.

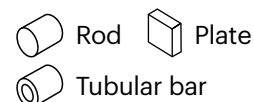
Material Properties and Benefits

- Chemical and hydrolysis resistance
- Dimensional stability
- Creep resistance
- Exceptional sliding and wear properties
- Lowest coefficient of friction (COF) of all Fluorosint™ PTFE materials

Technical Datasheet 



Available Geometries



Available Colors

White



Fluorosint™ 500 PTFE

Polytetrafluoroethylene

Fluorosint™ 500 PTFE shapes possess a unique combination of stability and wear resistance for sealing applications where tight dimensional control is required. With nine times greater resistance to deformation under load than unfilled PTFE, Fluorosint™ 500 polytetrafluoroethylene exhibits outstanding chemical and hydrolysis resistance and excellent mechanical and tribological properties. Additionally, Fluorosint™ 500 PTFE's coefficient of linear thermal expansion approaches the expansion rate of aluminum and is 1/4 that of virgin PTFE, which often eliminates fit and clearance problems for designers.

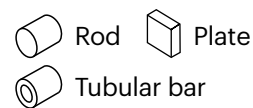
Material Properties and Benefits

- Most dimensionally stable PTFE-based product
- Chemical resistance parallels PTFE
- Continuous use temperatures of up to 260°C (500°F)
- Excellent mechanical and tribological properties
- Lower coefficient of thermal expansion

[Technical Datasheet](#) 



Available Geometries



Available Colors

Ivory



Fluorosint™ HPV PTFE

Polytetrafluoroethylene

Fluorosint™ HPV PTFE is an FDA compliant, high-performance bearing grade material. Optimized for high-pressure velocity and low k-factor, Fluorosint™ HPV PTFE was developed specifically for bearing applications where other PTFE formulations typically exhibit premature wear. Ideal for food processing and pharmaceutical applications, Fluorosint™ HPV PTFE's FDA compliance gives equipment manufacturers new design options for load-bearing and wear applications.

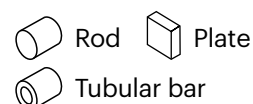
Material Properties and Benefits

- Low k-factor for excellent wear resistance
- High pressure velocity material with excellent load-bearing capacity
- FDA compliant

[Technical Datasheet](#) 



Available Geometries



Available Colors

Tan





Semitron™ - static dissipative plastics

The Semitron™ thermoplastic products were developed to help designers and users optimize the performance of semiconductor and electronics device manufacturing equipment. In addition to device manufacture, many of these materials are ideal for specific environments where wear resistance, chemical resistance and the management of static electricity are required. Two groups of Semitron™ products have been developed. One, well suited for device handling and test applications, and a second for next-generation CMP use. Semitron™ grades are available in sheet, rod (some formulations) and machined parts. Some are engineered with specific ESd properties while others offer enhanced purity, wear properties and higher performance in various semiconductor applications.

Semitron™ Homopolymer PP Natural

Semitron™ ESd 225 POM

Semitron™ ESd 300 PET-P

Semitron™ ESd 410C PEI

Semitron™ ESd 420 PEI

Semitron™ ESd 420V PEI

Semitron™ ESd 480 PEEK

Semitron™ ESd 490HR PEEK

Semitron™ ESd 500HR PTFE

Semitron™ ESd 520HR PAI

Semitron™ ESd HPV PEEK

Semitron™ CMP LL5 PET-P

Semitron™ CMP XL20 PAI

Semitron™ MDS 100 PEEK

Semitron™ MP-370

Semitron™ MPR-1000 PEEK

Availability of products, shapes, and colors may differ by region.

Semitron™ Homopolymer PP Natural

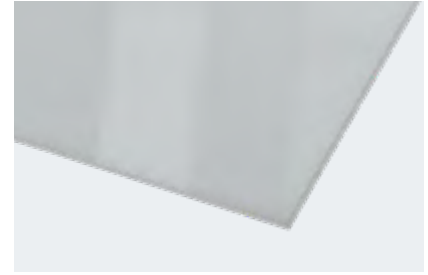
Polypropylene

Semitron™ Homopolymer PP Natural shapes have been developed specifically for demanding wet process semiconductor and electronics applications that require a high level of superior dimensional stability. In addition to these key benefits, this grade in particular offers low internal stress properties, improved machinability and weldability, excellent chemical and corrosion resistance and minimal center line porosity. Semitron™ Homopolymer PP Natural components accelerate fabrication cycles by reducing or eliminating the need to anneal and are often a favored solution for wafer motion gears, spin disks, wafer grabbers, pin and screw applications.

Material Properties and Benefits

- Superior dimensional stability
- Low internal stress properties
- Improved machineability and weldability
- Excellent chemical and corrosion resistance
- Minimal center line porosity

Technical Datasheet 



Available Geometries



Plate

Available Colors

White



Semitron™ ESd 225 POM-C

Copolymer Polyoxymethylene

Semitron™ ESd 225 are a line of POM shapes characterized by their excellent wear resistance, thermal performance and ability to quickly dissipate static charges. Due to these properties, this grade is ideal for several applications throughout the semiconductor and electronics industry, such as hard disk drive fixtures, high speed electronic printing components, jigs and fixtures for static control and wafer processing components.

Material Properties and Benefits

- Electrostatic dissipative
- Excellent wear resistance
- High heat resistance

Technical Datasheet 



Available Geometries



Rod



Plate

Available Colors

Beige



Semitron™ ESd 300 PET-P

Polypropylene

Semitron™ ESd 300 PET-P shapes are characterized by their excellent thermal performance, superior chemical resistance, consistent electrical properties, outstanding dimensional stability and abrasion resistance, minimal moisture absorption and their low coefficient of linear thermal expansion. Due to these key benefits and properties, Semitron™ ESd 300 PET-P components are often favored as solutions in backend test applications, LCD assemblies, packaging machine guides, printed circuit board assemblies, semiconductor chip mounters and fixtures and transfer tools.

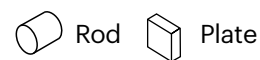
Material Properties and Benefits

- Excellent thermal performance
- Consistent electrical properties
- Superior dimensional stability
- Low water absorption
- Outstanding toughness and abrasion resistance
- Inherently dissipative

[Technical Datasheet](#) 



Available Geometries



Available Colors

Black



Semitron™ ESd 410C PEI

Polyetherimide

Semitron™ ESd 410C PEI is an electro static dissipative material that exhibits excellent dimensional stability characteristics ideal for semiconductor and electronics handling environments. This Semitron™ ESd grade in particular can be used in temperature environments up to 210°C (410°F) without degradation and offers low stress for tighter tolerances during machining, a reduced coefficient of linear thermal expansion and minimal water absorption. For these reasons, Semitron™ ESd 410C PEI components excel in handling tray, circuit board, hard disk drive and sensitive processing equipment applications.

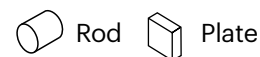
Material Properties and Benefits

- Electrostatic dissipative
- Low stress for tight tolerances on machining
- Resistant to temperatures up to 210°C (410°F)
- Low thermal expansion and water absorption

[Technical Datasheet](#) 



Available Geometries



Available Colors

Black



Semitron™ ESd 420 PEI

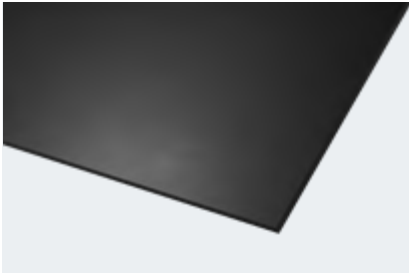
Polyetherimide

Semitron™ ESd 420 PEI electrostatic dissipative shapes exhibit high strength and stiffness and excellent resistivity in the 10E5 to 10E8 ohms per square range. Semitron™ ESd 420 PEI does not rely on atmospheric phenomena (humidity) to activate, nor are surface treatments used to achieve dissipation. This grade in particular excels in high temperature environments, making it ideal for extreme structural applications in semiconductor and electronics markets.

Material Properties and Benefits

- High strength and stiffness
- Low stress for tight tolerance machining
- Good wear resistance
- High thermal performance
- Tensile strength of 11,500 psi
- Flexural modulus of 650,000 psi with 2.9% moisture absorption

Technical Datasheet 



Available Geometries

 Plate

Available Colors

Black



Semitron™ ESd 420V PEI

Polyetherimide

Semitron™ ESd 420V PEI electrostatic dissipative shapes possess high strength and stiffness and are not subject to dimensional change when exposed to moisture. This grade in particular offers a dissipative performance in the 10E5 to 10E8 ohms per square range and a heat deflection temperature of 215°C (419°F). Due to these characteristics, Semitron™ ESd 420V PEI is an excellent solution for device handling and test applications within the semiconductor and electronics industries.

Material Properties and Benefits

- High strength and stiffness
- Low stress for tight tolerance machining
- Surface resistivity: 10⁶ – 10⁹ ohms/sq.
- High thermal performance
- Good dimensional stability

Technical Datasheet 



Available Geometries

 Plate

Available Colors

Black



Semitron™ ESd 480 PEEK

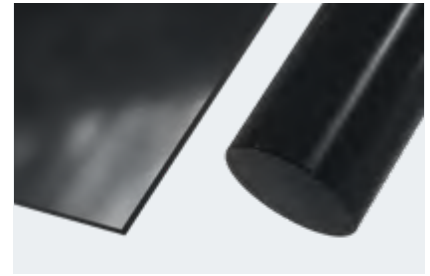
Poly-ether-ether-ketone

Semitron™ ESd 480 PEEK is an electrostatic dissipative material that exhibits excellent chemical resistance properties while also maintaining high dimensional stability under varying environmental conditions. Due to these characteristics, this grade in particular is ideal for critical test fixture and wafer handling applications in wet process tools, where static dissipation is critical.

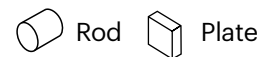
Material Properties and Benefits

- Electrostatic dissipative
- Excellent chemical resistance
- High dimensional stability in range of environments

Technical Datasheet 



Available Geometries



Available Colors

Black



Semitron™ 490HR PEEK

Poly-ether-ether-ketone

Semitron™ ESd 490HR PEEK electrostatic dissipative shapes that exhibit a higher resistivity value in the 10^9 to 10^{11} ohms per square range. Semitron™ ESd 490HR PEEK components are thermally stable to temperatures of 270°C (490°F) without degradation and also possess high structural strength and stiffness combined with excellent dimensional stability. This particular grade is non-sloughing, which is why it is an ideal solution for socket, nest and contactor manufacturing for test equipment and other electronic device handling applications.

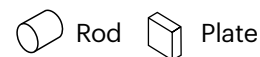
Material Properties and Benefits

- Higher resistivity value, in the range of 10^9 to 10^{11}
- Thermally stable to temperatures of 270°C (490°F)
- Excellent chemical resistance
- High structural strength and stiffness
- Excellent dimensional stability

Technical Datasheet 



Available Geometries



Available Colors

Black



Semitron™ ESd 500HR PTFE

Polytetrafluoroethylene

Semitron™ ESd 500HR PTFE electrostatic dissipative shapes offer an excellent combination of low frictional properties, outstanding dimensional stability and a high resistivity range of 10^{10} to 10^{12} ohms per square (antistatic range). Reinforced with a proprietary synthetic mica, Semitron™ ESd 500HR PTFE is thermally stable up to temperatures of 260°C (500°F) without degradation, possesses high thermal insulation and a low coefficient of friction. Due to these characteristics, this grade is ideal for applications where controlled bleed-off of static charges is critical.

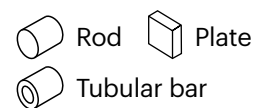
Material Properties and Benefits

- Thermally insulative
- Very low coefficient of friction (COF)
- Broad chemical resistance
- Low outgassing material
- Thermal performance to 260°C (500°F) in continuous use
- Outstanding dimensional stability

[Technical Datasheet](#) 



Available Geometries



Available Colors

White



Semitron™ ESd 520HR PAI

Polyamide-Imide

Semitron™ ESd 520HR PAI is electrostatic dissipative and possesses the unique ability to resist dielectric breakdown at high voltages. As a result, Semitron™ ESd 520HR PAI is the only Semitron™ grade that maintains its performance throughout the 100V to 1000V voltage range while also offering the mechanical performance needed to excel in demanding applications. This characteristic, combined with its high strength and heat resistance, make Semitron™ ESd 520HR PAI an ideal solution for test equipment and device handling applications within the semiconductor and electronics industry.

Material Properties and Benefits

- Resistant to dielectric breakdown from 100V to 1000V
- Electrostatic dissipative
- High mechanical strength
- High heat resistance

[Technical Datasheet](#) 



Available Geometries



Available Colors

Black



Semitron™ ESd HPV PEEK

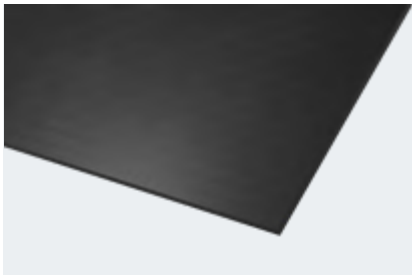
Poly-ether-ether-ketone

Semitron™ ESd HPV PEEK electrostatic dissipative shapes contain specific additives that make it an excellent performer in wear and friction applications where antistatic properties are essential. Due to this, this grade excels in electronic fixture applications that require a high degree of dimensional stability over an extended thermal range, as well as precise machinability. Semitron™ ESd HPV PEEK is ideal for chip trays and carriers, PCB board manufacturing and fixturing for electronic assemblies.

Material Properties and Benefits

- High dimensional stability
- Excellent wear and friction resistance
- Low moisture absorption
- Flexural modulus of 760,000 psi
- Melting point of 340°C (644°F)
- UV resistant

Technical Datasheet 



Available Geometries

 Plate

Available Colors

Black



Semitron™ CMP LL5 PET-P

Polyethylene terephthalate

Optimized for use in CMP retaining rings, Semitron™ CMP LL5 is a high-performance PET-P material with a superior wear life that is up to eight times greater than standard PPS when used in oxide chemistries. Its excellent wear and chemical resistance makes this specialty PET-P grade ideal for increasing the performance of CMP tools operating in temperatures up to 60°C (140°F).

Material Properties and Benefits

- Long-wearing material, 5x that of PPS
- Best performance in oxide chemistries, 8x that of PPS
- Ideal for CMP applications up to 60°C (140°F)

Technical Datasheet 



Available Geometries

 Plate

Available Colors

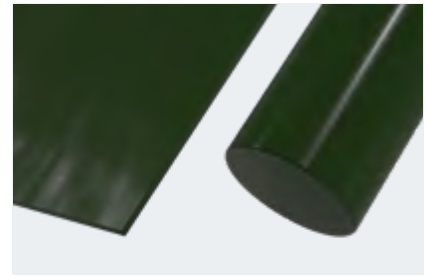
White



Semitron™ CMP XL20 PAI

Polyamide-Imide

Semitron™ CMP XL20 PAI was developed from a proprietary polyamide-base resin and offers wear life more than 20 times that of standard PPS in all CMP chemistry environments. This material has the best combination of wear life and mechanical strength and stiffness, ideal for the most demanding applications and in extreme process environments.

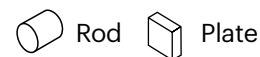


Material Properties and Benefits

- High strength and stiffness promotes fewer edge defects and better uniformity
- Good chemical and creep resistance
- Excellent wear life
- Dimensionally stable
- Outperforms PPS up to 20x in most processes

[Technical Datasheet](#) 

Available Geometries



Available Colors

Dark green



Semitron™ MDS 100 PEEK

Poly-ether-ether-ketone

Semitron™ MDS 100 PEEK is a modified grade with a remarkable combination of strength, stiffness and stability. This particular material was developed for use in uncontrolled application environments where a high level of precision is required. Due to this, Semitron™ MDS 100 PEEK components are often used as test sockets, nests and fixtures in test and package equipment throughout the semiconductor and electronics industry.

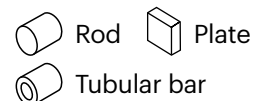


Material Properties and Benefits

- High strength and stiffness
- High dimensional stability
- Precision performance in uncontrolled environments

[Technical Datasheet](#) 

Available Geometries



Available Colors

Gray



Semitron™ MP 370 PEEK

Poly-ether-ether-ketone

Semitron™ MP 370 PEEK is a ceramic-filled modified material that offers more choices in the design and manufacture of precision test sockets for the semiconductor manufacturing industry. Semitron™ MP 370 PEEK shapes exhibit excellent moisture absorption and thermal resistance, while also maintaining outstanding strength and dimensional stability. As a result, this grade is often selected for test socket applications where precision machining is critical and complex geometries are prevalent.



Material Properties and Benefits

- Exceptional machinability
- Low internal stresses and no “soft center” problems associated with injection molded blanks
- Excellent strength and stiffness
- Very low moisture absorption
- Good thermal machinability

[Technical Datasheet](#) 

Available Geometries

 Plate

Available Colors

Gray

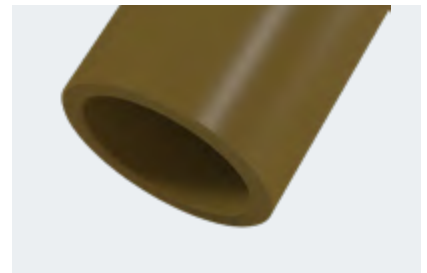


Semitron™ MPR-1000

Polyamide-Imide

Semitron™ MPR-1000 shapes possess excellent heat resistance and low rates of outgassing and erosion in plasma chambers. This high purity material with low ionic content is often chosen for vacuum chamber applications within etch, CVD and ion implant sub-segmentations in the semiconductor and electronics industry.

Semitron™ MPR-1000 shows increased lifetime over traditional materials, for example up to 25x over polyimide in ozone in some cases. Due to its longevity, it is specified against traditional materials used in vacuum chamber applications such as quartz, ceramics, polyimides and other engineering plastics.



Material Properties and Benefits

- Carbon fiber-reinforced with graphite and PTFE lubricants
- Excellent wear resistance
- High limiting pressure velocity (LPV)
- High mechanical strength and stiffness
- Low coefficient of friction (COF)

[Technical Datasheet](#) 

Available Geometries

 Tubular bar

Available Colors

Ochre

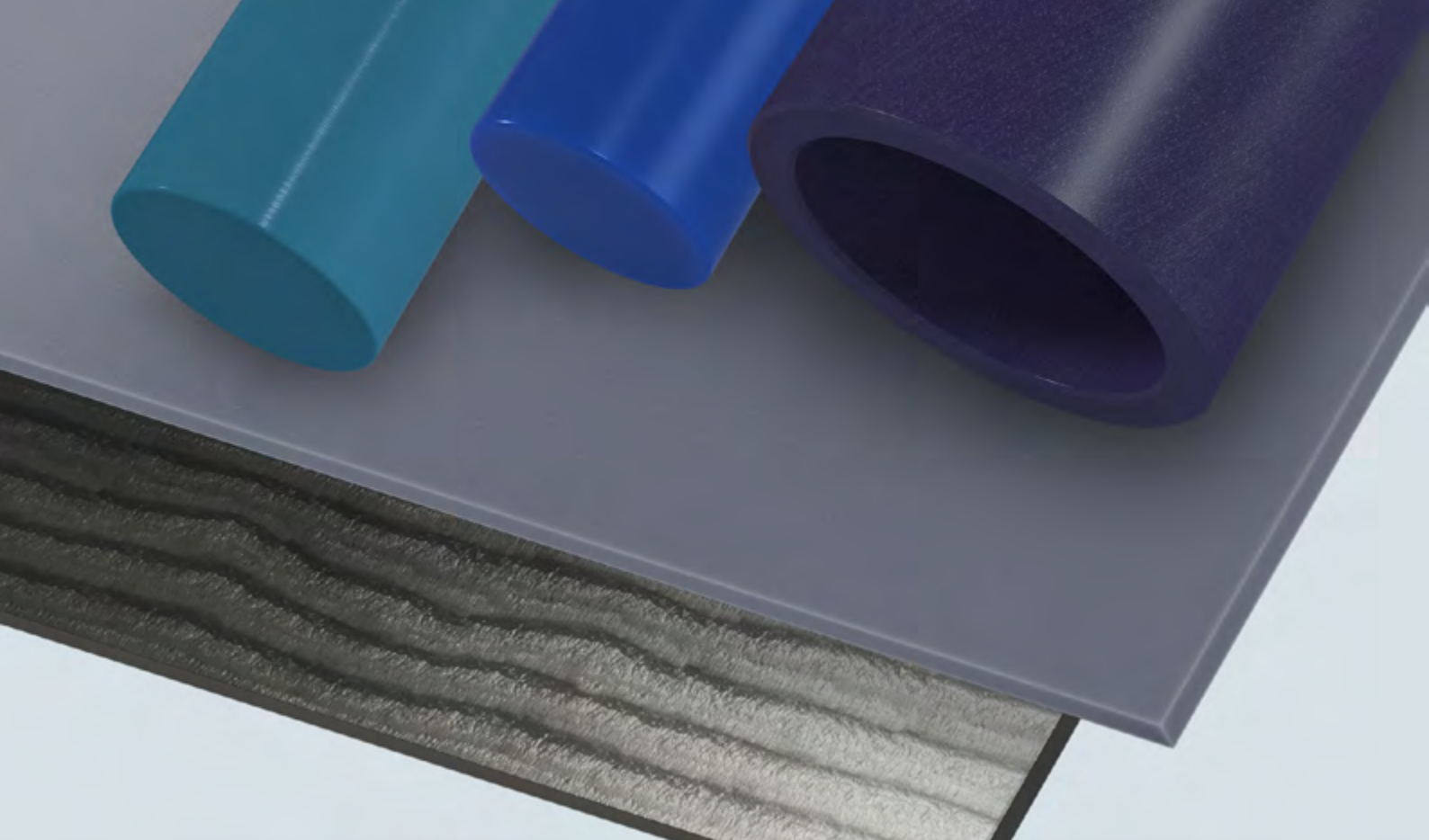




03 | General engineering plastics

Semi-finished thermoplastic shapes products for general engineering applications

Our portfolio of engineering plastics includes shapes in acetal, nylon, PET-P, PC, UHMW-PE materials and more, each exhibiting consistent performance in temperatures ranging from 65°C to 120°C (150°F to 250°F).



Ertalon™ / Nylatron™ PA

Ertalon™ and Nylatron™ are a range of high-performance polyamide (nylon) materials with high toughness, a low coefficient of friction and excellent wear resistance. These properties make them the industry standard for use in bearing and wear applications and ideal replacements for materials ranging from bronze to rubber. Our comprehensive range of semi-crystalline polyamide materials includes special formulations for demanding applications requiring extremely low wear rates, near zero stick-slip, internal lubrication, long-term thermal stability and high pressure velocity.

Ertalon™ 6 SA PA6

Ertalon™ 6 SA FG PA6

Nylatron™ MC™ 907 /
Ertalon 6PLA PA6

Ertalon™ 6PLA FG PA6

Ertalon™ 6 XAU+ PA6

Nylatrack™ PA6

Ertalon™ 6MOS-C PA6

Nylatron™ GSM PA6

Nylatron™ GSM Blue PA6

Nylatron™ / Ertalon™ LFX PA6

Nylatron™ LIG PA6

Nylatron™ MC 901 PA6

Nylatron™ MC 901 H.S. PA6

Nylatron™ NSM PA6

Nylatron™ SLG PA6

Nylatron™ WP PA6

Nylatron™ 703 XL PA6

Ertalon™ 6 PLA NU PA6

Ertalon™ 6 SA NU PA6

Nylatron™ /
Ertalon™ 4.6 PA4.6

Nylatron™ 101 /
Ertalon™ 66 SA PA66

Nylatron™ 101 FG /
Ertalon™ 66 SA FG PA66

Nylatron™ Nylon 105
PA66 Black

Nylatron™ FST PA66

Nylatron™ GF30 /
Ertalon™ 66 GF30 PA66

Nylatron™ GS PA66

Nylatron™ GS PA66 AE

Nylatron™ 66 SA FR PA66

Nylatron™ 66 SA PA66 AE

Availability of products, shapes, and colors may differ by region.

Ertalon™ 6 SA PA6

Polyamide 6

Ertalon™ 6 SA PA6 exhibits a great combination of mechanical strength, stiffness, toughness, mechanical damping properties, as well as creep and wear resistance. In addition to these characteristics, this particular grade possesses excellent electrical insulating properties and outstanding chemical resistance capabilities. For these reasons, Ertalon™ 6 SA PA6 is often referred to as a “general purpose” grade for mechanical construction and maintenance applications.

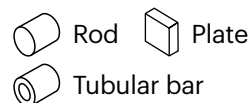


Material Properties and Benefits

- Great combination of mechanical strength, stiffness, toughness, and damping abilities
- Resistance to creep and wear
- Excellent electrical insulation
- Outstanding chemical resistance

Technical Datasheet 

Available Geometries



Available Colors

Natural (white), Black



Ertalon™ 6 SA FG PA6

Polyamide 6

Ertalon™ 6 SA FG PA6 (Food Grade) exhibits a powerful combination of mechanical strength, stiffness and toughness, as well as mechanical damping properties and resistance to creep and wear. Beyond its mechanical performance, this food grade nylon possesses excellent electrical insulating properties and outstanding chemical resistance. Due to these properties and this grade's FDA (21 CFR § 177.1500) and EU 10/2011 food compliancy, Ertalon™ 6SA FG PA6 is often specified for screw machined electrical insulators, bushings, bearings, gears, roller wheels, star wheels and seals.

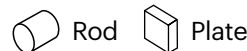


Material Properties and Benefits

- Outstanding mechanical strength
- High stiffness and toughness
- Mechanical damping properties
- Resistance to creep, wear and chemicals
- Electrical insulating properties
- FDA 21 CFR § 177.1500 and EU 10/2011 food contact compliant

Technical Datasheet 

Available Geometries



Available Colors

Natural (white)



Nylatron™ MC™ 907 / Ertalon™ 6PLA PA6

Polyamide 6

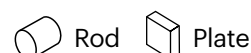
Nylatron™ MC™ 907/Ertalon™ 6 PLA PA6 is an unmodified cast nylon 6 grade and exhibits characteristics which come very close to those of Ertalon™ 66 SA. It combines high mechanical strength, stiffness and hardness with good resistance to creep, wear, fatigue and heat aging properties. Additionally, this material also displays good sliding properties and machinability, as well as electrical insulation and resistance to gamma and x-ray radiation.



Material Properties and Benefits

- High mechanical strength, stiffness, hardness and toughness
- Good fatigue resistance
- High mechanical damping ability
- Good sliding properties and excellent wear resistance
- Good electrical insulating properties
- Good resistance to high energy radiation (gamma- and X-rays)
- Good machinability

Available Geometries



Available Colors

Natural (white), Black, Blue



[Technical Datasheet](#) 

Ertalon™ 6PLA FG PA6

Polyamide 6

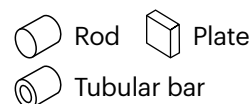
Ertalon™ 6PLA FG PA6 (Food Grade) unmodified shapes offer one of the highest strength and hardness of all nylon 6 grades and also exhibit great creep and wear resistance, heat aging properties and machinability capabilities. The grade is FDA 21 CFR § 177.1500 and EU 10/2011 food contact compliant as well. Components can be found throughout the food processing and packaging industry as gears, rollers, wheel, bearings and conveyor wear parts.



Material Properties and Benefits

- Highest strength and hardness of all PA6 materials
- Excellent creep and wear resistance
- Excellent heat aging properties
- Excellent machinability
- FDA 21 CFR § 177.1500 and EU 10/2011 food contact compliant

Available Geometries



Available Colors

Blue, White



[Technical Datasheet](#) 

Ertalon™ 6 XAU+ PA6

Polyamide 6

Ertalon™ 6 XAU+ PA6 is a heat-stabilized cast nylon grade with a very dense and highly crystalline structure. Compared to conventional extruded or cast nylons, Ertalon™ 6 XAU+ PA6 offers superior heat aging performance in air, which allows this material to perform at higher continuous service temperatures. Due to these characteristics, Ertalon™ 6 XAU+ PA components are often recommended for bearings and other mechanical parts that are subject to wear and that are operating for long periods of time at temperatures over 60°C (140°F).

Material Properties and Benefits

- Heat-stabilized
- Highly dense, crystalline structure
- Superior heat aging performance in air
- Reliable wear resistance and performance at service temperatures over 60°C (140°F)

Technical Datasheet 



Available Geometries

 Tubular bar

Available Colors

Black



Nylatrack™ PA6

Polyamide 6

Nylatrack™ PA6 is a heavy-duty track plate material designed to reduce the weight and noise of tracked vehicles such as subsea trenchers (ROVs), excavators, bulldozers and crawlers. Track plates (also known as track shoes or track pads) made from Nylatrack™ PA6 weigh up to 80% less than comparable steel plates, leading to a significant reduction in ground pressure and soil compression all while maintaining excellent traction. The nylon 6 material exhibits great resistance to wear, corrosion and adhesion, making for a long service life with low cleaning effort. In addition to low rates of deformation under load, the flexible material exhibits unique bending behavior that helps to absorb vibrations from the equipment and muffle the noise of the undercarriage.

Nylatrack™ plasticized nylon track plates find successful application on a wide range of on-land and subsea tracked vehicles. More than 25 standard track plate designs are available, with the additional option of customer-specified designs.

Material Properties and Benefits

- Lightweight for greater fuel efficiency and less ground pressure
- Excellent resistance to wear and corrosion for long meantime between repairs (MTBR)
- No adhesion for easy cleaning
- Unique bending behavior and low deformation under load
- Noise abatement

Technical Datasheet 



Available Geometries

 Track plate, standard and customized

Available Colors

Black



Ertalon™ 6MOS-C PA6

Polyamide 6

This cast nylon 6 (polyamide 6) grade includes molybdenum disulphide as an internal lubricant to enhance bearing and wear behavior of moving parts in demanding industrial environments. The material shows excellent impact resistance and load bearing capacities which are inherent to cast PA6 grades. The material can overall be considered as a cost alternative to high-performing MOS2-filled grades such as MCG's Nylatron™ GSM PA6. Ertalon™ 6MOS-C PA6 is preferably used as bearing, sliding and wear parts in the general engineering, power transmission, heavy machinery, offshore and other market segments.

Material Properties and Benefits

- Self-lubricated material with high wear and impact resistance
- Design flexibility due to a beneficial combination of mechanical properties which is ideal for a wide range of applications
- Easy to machine
- Cost-effective alternative to metals or high-performance engineering plastics
- Noise and vibration dampening properties for enhanced operating safety

Technical Datasheet 



Available Geometries

 Rod  Plate

Available Colors

Black, other colors upon request



Nylatron™ GSM PA6

Polyamide 6

Nylatron™ GSM PA6 shapes contain finely divided particles of molybdenum disulphide (MoS₂) to enhance their load-bearing capabilities while maintaining the impact resistance inherent to cast nylon products. This grade in particular possesses an ideal combination of strength and toughness, while also exhibiting excellent mechanical and electrical properties. This powerful combination of characteristics makes Nylatron™ GSM PA6 an ideal material for use in gears, bearings, sprockets and sheaves throughout the construction and heavy equipment markets.

Material Properties and Benefits

- Molybdenum disulphide enhances load-bearing capabilities
- Excellent impact resistance
- Powerful combination of strength and toughness
- Excellent mechanical and electrical properties

Technical Datasheet 



Available Geometries

 Rod  Plate
 Tubular bar

Available Colors

Dark-gray



Nylatron™ GSM Blue PA6

Polyamide 6

Nylatron™ GSM Blue PA6 is a molybdenum disulphide (MoS₂) and oil-filled polyamide that is characterized by its superior frictional characteristics, low coefficient of friction, greater limiting PV and low “k” factor. Due to these characteristics, this grade excels in high pressure environments and at low speeds, making it ideal for slide pads, thrust washers and trunnion bearings. Nylatron™ GSM Blue PA6 components also excel as bearing and wear parts in a wide range of automated equipment applications. It is dark blue in color.

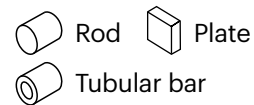
Material Properties and Benefits

- Broadest size range availability
- Good mechanical and electrical properties
- Ideal balance of strength and toughness
- Outstanding wear resistance
- Low coefficient of friction (COF)

Technical Datasheet 



Available Geometries



Available Colors

Blue



Nylatron™ / Ertalon™ LFX PA6

Polyamide 6

Nylatron™/Ertalon™ LFX PA6 internally lubricated polyamide shapes were specifically formulated for applications involving unlubricated, highly loaded and slowly moving parts. This grade in particular displays high mechanical strength, stiffness, hardness and toughness, great sliding properties, high mechanical damping capabilities and exceptional electrical insulating properties.

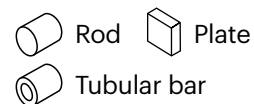
Material Properties and Benefits

- Excellent wear resistance and easy machining
- Low coefficient of friction (COF)
- Higher values of PV (pressure / velocity)
- Good resistance to high energy radiations (Gamma and X-rays)
- High mechanical damping capacity
- Good sliding and thermal insulation properties

Technical Datasheet 



Available Geometries



Available Colors

Green



Nylatron™ LIG PA6

Polyamide 6

Nylatron™ LIG PA6 is a self-lubricating, oil-filled polyamide that is an ideal solution for industrial applications in the conveying and processing industries. This grade in particular exhibits higher toughness and limiting pressure velocity when compared to unfilled grades and also offers a low coefficient of friction for a wide range of applications including bushings, bearings, roller wheels, valve seats and seals. It increases the load-bearing performance of the material when compared to unfilled nylons and reduces the coefficient of friction.

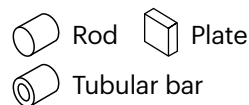
Material Properties and Benefits

- Broadest size range availability
- Good mechanical and electrical properties
- Ideal balance of strength and toughness
- Internally lubricated
- Cast as finished parts and near net shapes (nylon 6)

Technical Datasheet 



Available Geometries



Available Colors

Green



Nylatron™ MC 901 PA6

Polyamide 6

Nylatron™ MC 901 PA6 shapes are ideal for a variety of bearing and structural applications. Distinguishable by its blue color, this grade is characterized by outstanding mechanical strength, rigidity, hardness and toughness. The material also exhibits great sliding properties, excellent electrical insulation properties and outstanding wear resistance. Due to these characteristics and properties, Nylatron™ MC 901 PA6 is often favored as a solution for gear wheels, racks, pinions and custom parts.

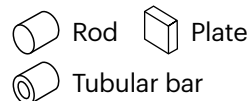
Material Properties and Benefits

- Outstanding mechanical strength, rigidity, hardness and toughness
- Excellent sliding properties and wear resistance
- Excellent electrical insulation

Technical Datasheet 



Available Geometries



Available Colors

Blue



Nylatron™ MC 901 H.S. PA6

Polyamide 6

Nylatron™ MC 901 H.S. PA6 (heat stabilized) shapes offer long-term thermal stability up to 126°C (260°F) and are ideal for a variety of bearing and structural applications such as wheels, gears and custom parts. Distinguishable by its blue color, this grade is characterized by its outstanding mechanical strength, rigidity, hardness and toughness, great sliding properties, superior resistance to high-energy radiation, excellent electrical insulation properties and outstanding wear resistance capabilities. Due to these characteristics and properties, Nylatron™ MC 901 H.S. PA6 is often favored as a solution for conveyor wear components, bushings, sheaves, wear pads and valve seats and seals.

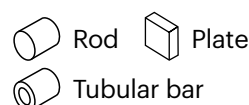


Material Properties and Benefits

- Long-term thermal stability up to 126°C (260°F)
- Mechanical strength, rigidity, hardness, toughness
- Great sliding properties and wear resistance
- Superior resistance to high-energy radiation
- Excellent electrical insulation

[Technical Datasheet](#) 

Available Geometries



Available Colors

Blue



Nylatron™ NSM PA6

Polyamide 6

Nylatron™ NSM PA6 is a solid lubricant-filled, proprietary cast nylon formulation that exhibits superior self-lubricating properties, outstanding friction behavior, maximum wear resistance and excellent dynamic load-bearing capacities that are up to five times higher than conventional cast nylon grades. As the most wear-resistant nylon available, Nylatron™ NSM PA6 components excel in higher velocity, unlubricated moving parts requiring larger geometries. With its exceptional wear resistance and a service life up to 10 times longer than standard nylons, the material is a favored solution for bearings, gears, wear pads, pulleys, sheaves, bushings, valve seats and seals.

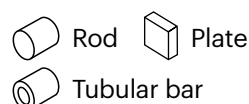


Material Properties and Benefits

- The most wear-resistant polyamide available
- Self-lubricating with outstanding friction behavior
- Dynamic load-bearing capacity up to 5x higher than standard cast nylons
- Service life up to 10x longer than standard cast nylons
- Ideal for high velocity applications requiring greater geometries

[Technical Datasheet](#) 

Available Geometries



Available Colors

Gray



Nylatron™ SLG PA6

Polyamide 6

Nylatron™ SLG PA6 oil-filled polyamide shapes were specifically developed for non-lubricated, high-loaded and slow-moving parts in a variety of industrial environments. For applications that require a low coefficient of friction (COF) and good sliding properties, high mechanical strength, rigidity and outstanding wear resistance, Nylatron™ SLG PA6 components are an ideal solution. Furthermore, when compared to conventional cast nylon grades, Nylatron™ SLG PA6 offers lower maintenance costs and a longer service life. Nylatron™ SLG PA6 has a food contact compliant version that carries USA FDA 21 CFR § 177.2500 compliance and comes in natural color.



Material Properties and Benefits

- Broadest size range availability
- Excellent wear resistance
- Good mechanical and electrical properties
- Ideal balance of strength and toughness
- Internally lubricated and heat stabilized

Technical Datasheet 

Available Geometries

-  Rod
  Plate
 Tubular bar
(available for the FDA- version in natural color only)

Available Colors

Natural (white) Blue



Nylatron™ WP PA6

Polyamide 6

Nylatron™ WP PA6 self-lubricated polyamide shapes outperform competing nylon products in wear resistance and load-bearing capabilities and also provide users with an economical solution across a wide range of applications and industries. Developed specifically for wear pad applications, Nylatron™ WP PA6 components exhibit excellent wear properties and a high limiting PV, while also offering weight and noise reduction, corrosion resistance and easy machining. An additional key benefit of this grade in particular is its ability to extend part life and reduce maintenance and associated downtime and costs.



Material Properties and Benefits

- Excellent wear properties, low friction and stress free
- Reduces chatter and stick-slip
- Longer part life
- Outperforms competing nylon materials in wear resistance and load-bearing capabilities
- High limiting PV, up to 5x higher than standard nylons

Technical Datasheet 

Available Geometries

-  Rod
  Plate
 Tubular bar

Available Colors

Black



Nylatron™ 703 XL PA6

Polyamide 6

This unique, ultra-high performance bearing grade PA6 offers even better wear resistance than Nylatron™ NSM, exhibiting superior load-bearing capabilities and a near zero level of stick-slip. By eliminating stick-slip, Nylatron™ 703 XL PA6 offers an extraordinary amount of control for high-precision applications where smooth and steady motion is critical. For this reason, Nylatron™ 703 XL PA6 is often favored as a solution for wear pads, conveyor components, corner tracks and pneumatic control surfaces throughout the construction and heavy equipment markets.

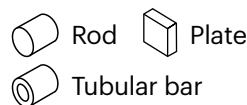
Material Properties and Benefits

- Near zero stick-slip
- Superior wear resistance
- Superior load-bearing capabilities

Technical Datasheet 



Available Geometries



Available Colors

Purple



Ertalon™ 6 PLA NU PA6

Polyamide 6

Ertalon™ 6 PLA NU PA6 is an unmodified cast nylon 6 grade and combines high mechanical strength, stiffness and hardness with good resistance to creep, wear, fatigue and heat aging properties. Additionally, this material displays good sliding properties and machinability, as well as electrical insulation and resistance to gamma and x-ray radiation.

Ertalon™ 6 PLA NU PA6 is PMUC-certified and has passed stringent tests by an EDF-approved laboratory to meet PMUC requirements for use on nuclear sites. Each shipment is accompanied by a PMUC certificate including production batch number.

MCG offers a range of engineering stock shape products that hold PMUC approval from third party certified laboratories in France. PMUC is the standard for products and materials used in electric, nuclear and thermal power plants.

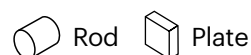
Material Properties and Benefits

- PMUC-approved for use in nuclear power plants
- High mechanical strength, stiffness, hardness and toughness
- Good fatigue resistance
- High mechanical damping ability
- Good sliding properties and excellent wear resistance
- Good electrical insulating properties
- Good resistance to high energy radiation (gamma- and X-rays)
- Good machinability

Technical Datasheet 



Available Geometries



Available Colors

Natural (white)



Ertalon™ 6 SA NU PA6

Polyamide 6

Ertalon™ 6 SA NU PA6 exhibits a great combination of mechanical strength, stiffness, toughness, mechanical damping properties, as well as creep and wear resistance. In addition to these characteristics, this particular grade possesses excellent electrical insulating properties and outstanding chemical resistance capabilities.

Ertalon™ 6 SA NU PA6 is PMUC-certified and has passed stringent tests by an EDF-approved laboratory to meet PMUC requirements for use on nuclear sites. Each shipment is accompanied by a PMUC certificate including production batch number.

MCG offers a range of engineering stock shape products that hold PMUC approval from third party certified laboratories in France. PMUC is the standard for products and materials used in electric, nuclear and thermal power plants.

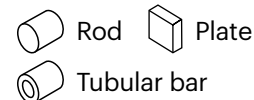
Material Properties and Benefits

- PMUC-approved for use in nuclear power plants
- Great combination of mechanical strength, stiffness, toughness and damping abilities
- Resistance to creep and wear
- Excellent electrical insulation
- Outstanding chemical resistance

Technical Datasheet 



Available Geometries



Available Colors

Natural (white)



Nylatron™ / Ertalon™ 4.6 PA4.6

Polyamide 4.6

Nylatron™ 4.6 / Ertalon™ 4.6 PA4.6 shapes are characterized by their superior heat aging resistance and ability to retain their outstanding stiffness and creep resistance over a wide range of temperatures. Due to these unique capabilities, Nylatron™ 4.6 / Ertalon™ 4.6 PA4.6 components excel in extreme environments where PA6, PA66, POM and PET-P materials typically fall short. Additional application examples include bushings, bearings, gears, pulleys, sheaves, wear pads, valve seats, seals and conveyor wear components.

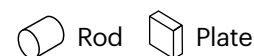
Material Properties and Benefits

- Superior heat aging resistance
- Retains outstanding stiffness and creep resistance at high temperatures
- Outperforms PA6, PA66, POM and PET-P in extreme environments
- Ideal for wear components

Technical Datasheet 



Available Geometries



Available Colors

Reddish-brown



Nylatron™ 101 / Ertalon™ 66 SA PA66

Polyamide 66

The Nylatron™ 101/Ertalon™ 66 SA nylon 66 material offers a higher mechanical strength, stiffness, heat and wear resistance than its nylon 6 counterpart. It also has a better creep resistance but its impact strength and mechanical damping ability are reduced. Well suited for machining on automatic lathes. Please note that Nylatron™ 101/Ertalon™ 66 SA PA66 natural rods over dia. 150 mm are made from a modified polyamide 66 resin.

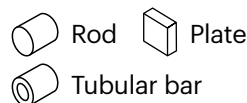


Material Properties and Benefits

- High mechanical strength, stiffness, hardness and toughness
- Good fatigue resistance, sliding properties and machinability
- High mechanical damping ability
- Excellent wear resistance
- Good electrical insulating properties
- Good resistance to high energy radiation (gamma and X-rays)

Technical Datasheet 

Available Geometries



Available Colors

Natural (white), Black



Nylatron™ 101 FG / Ertalon™ 66 SA FG PA66

Polyamide 66

Nylatron™ 101 FG PA66/Ertalon™ 66 SA FG PA 66 are unmodified, food grade shapes characterized by their superior combination of strength and toughness. Compared to other unmodified nylons, components from this grade possess superior mechanical strength, stiffness and wear resistance, as well as one of the highest melting points of all PA66 materials. Due to these properties and this grade's FDA (21 CFR § 177.1500) and EU 10/2011 food compliancy, this PA66 material is often specified for screw machined electrical insulators, bushings, bearings, gears, roller wheels, star wheels and seals.

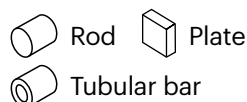


Material Properties and Benefits

- Superior mechanical strength and stiffness
- Excellent wear resistance
- Higher melting temperature than most nylons
- FDA (21 CFR § 177.1500) and EU 10/2011 food compliancy

Technical Datasheet 

Available Geometries



Available Colors

Natural (white), Black



Nylatron™ Nylon 105 PA66 Black

Polyamide 6

Nylatron™ Nylon 105 PA66 (black color) exhibits an ideal balance of strength, toughness and wear resistance. This versatile, high-performance nylon material offers broad size and shape availability and is commonly used for general purpose bearing and wear components.



Material Properties and Benefits

- Broad size and shape availability
- Good wear resistance
- Ideal balance of strength and toughness

Technical Datasheet 

Available Geometries

 Rod  Plate

Available Colors

Black



Nylatron™ FST PA66

Polyamide 66

Nylatron™ FST PA66 nylon shapes are fire, smoke and toxicity retardant, which enables them to withstand extreme temperatures up to 175°C (347°F). In addition to these characteristics, Nylatron™ FST PA66 is also JAR/FAR 25.853 compliant. As the first engineering plastic to achieve this standard, this polyamide grade was developed specifically for use in aircraft interior environments. Additionally, the material is often favored as a replacement for metal parts applications such as brackets, seal bushings, slide rails and duct seals.



Material Properties and Benefits

- Fire, smoke, and toxicity retardant
- Withstands temperatures up to 175°C (347°F)
- JAR / FAR 25.853 compliant

Technical Datasheet 

Available Geometries

 Rod  Plate

Available Colors

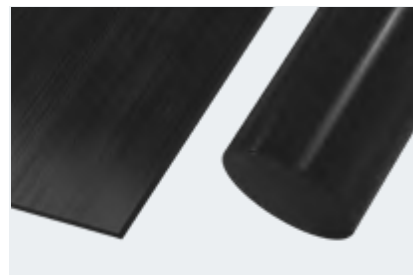
Natural (creme)



Nylatron™ GF30 / Ertalon™ 66 GF30 PA66

Polyamide 66

Compared with virgin PA66, the 30% glass fiber-reinforced and heat-stabilized nylon grade Nylatron™ GF30/Ertalon™ 66 GF30 offers increased strength, stiffness, creep resistance and dimensional stability. The material exhibits good mechanical damping abilities and sliding performance, while also retaining excellent wear resistance at higher maximum service temperatures. Additionally, this reinforced PA66 is electrically insulative, resistant to high-energy radiation and easy to machine.



Material Properties and Benefits

- High mechanical strength, stiffness, hardness and toughness
- Good fatigue resistance
- High mechanical damping ability
- Good sliding properties and excellent wear resistance
- Good electrical insulating properties
- Good resistance to high energy radiation (gamma and X-rays)
- Good machinability

Technical Datasheet 

Available Geometries

 Rod  Plate

Available Colors

Black



Nylatron™ GS PA66

Polyamide 66

Nylatron™ GS PA66, is a Molybdenum Disulphide (MoS₂) filled nylon that offers outstanding strength and rigidity and a lower coefficient of linear thermal expansion than other nylon products. Due to these characteristics, Nylatron™ GS PA66 components maintain their fits and clearances and also have a reduced likelihood to seize as bearings. For these reasons, this grade is often used in bushings, bearings, roller wheels, pulleys, sheaves, wear pads, valve seats and seals throughout the construction and heavy equipment industries.



Material Properties and Benefits

- MoS₂-filled
- Outstanding strength and rigidity
- Lower coefficient of thermal expansion than other nylons
- Maintains fits and clearances
- Reduced likelihood of bearing seizure

Technical Datasheet 

Available Geometries

 Rod  Plate
 Tubular bar

Available Colors

Dark-gray



Nylatron™ GS PA66 AE

Polyamide 66

Nylatron™ GS PA66 AE (for aerospace applications) is a molybdenum disulphide-filled (MoS2) nylon that offers outstanding strength and rigidity, as well as a lower coefficient of linear thermal expansion (CLTE) compared to other nylon products. Even with prolonged exposures to high temperature, Nylatron™ GS PA66 AE components maintain their fits and clearances and have a reduced likelihood to seize as bearings. For these reasons, this grade can be found as bushings, bearings, roller wheels, pulleys, sheaves, wear pads, valve seats and seals throughout the aerospace industry, as well as in construction and heavy equipment.

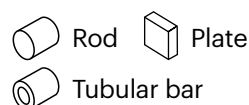
Material Properties and Benefits

- Outstanding mechanical strength and rigidity
- Low coefficient of linear thermal expansion (CLTE)
- Dimensionally stable to maintain fits and clearances
- Resolves issues with seizing bearings

[Technical Datasheet](#) 



Available Geometries



Available Colors

Dark-gray



Nylatron™ 66 SA FR PA66

Polyamide 66

Nylatron™ SA FR PA66 (flame retardant polyamide) shapes were developed to fulfill the requirements of the plastic flammability test which determines the tendency of the material to either extinguish or spread the flame once it has been ignited. This test procedure is described in UL94 and this particular Nylatron™ grade fulfills the V-0 criteria from a thickness of 1 mm, while also meeting the requirements of EN 45545-2 regulation- a standard specific to railway applications. For these reasons, Nylatron™ SA FR PA66 components are often favored solutions for applications within the transportation and railway markets such as, cable holders, clamps and channels and connections/sockets.

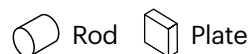
Material Properties and Benefits

- Flame retardance rating UL94-V0
- Fully compliant with REACH
- Low moisture absorption
- Parts manufactured from Nylatron™ 66 SA FR can be disposed according to WEEE

[Technical Datasheet](#) 



Available Geometries



Available Colors

Black



Nylatron™ 66 SA PA66 AE

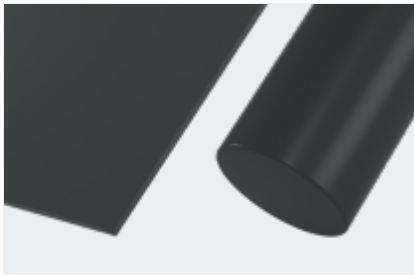
Polyamide 66

Nylatron™ 66 SA PA66 AE (for aerospace applications) unmodified nylon shapes are characterized by their superior combination of strength and toughness. Compared to other unmodified nylon grades, Nylatron™ 66 SA PA66 AE components possess superior mechanical strength, stiffness and wear resistance. Due to these properties and its FDA 21 CFR § 177.1500 compliance, Nylatron™ 66 SA PA66 AE is often specified for screw machined electrical insulators, bushings, bearings, gears, roller wheels, star wheels and seals, especially in aerospace applications.

Material Properties and Benefits

- Superior combination of mechanical strength and toughness
- Excellent wear resistance
- FDA 21 CFR § 177.1500 compliance

Technical Datasheet 



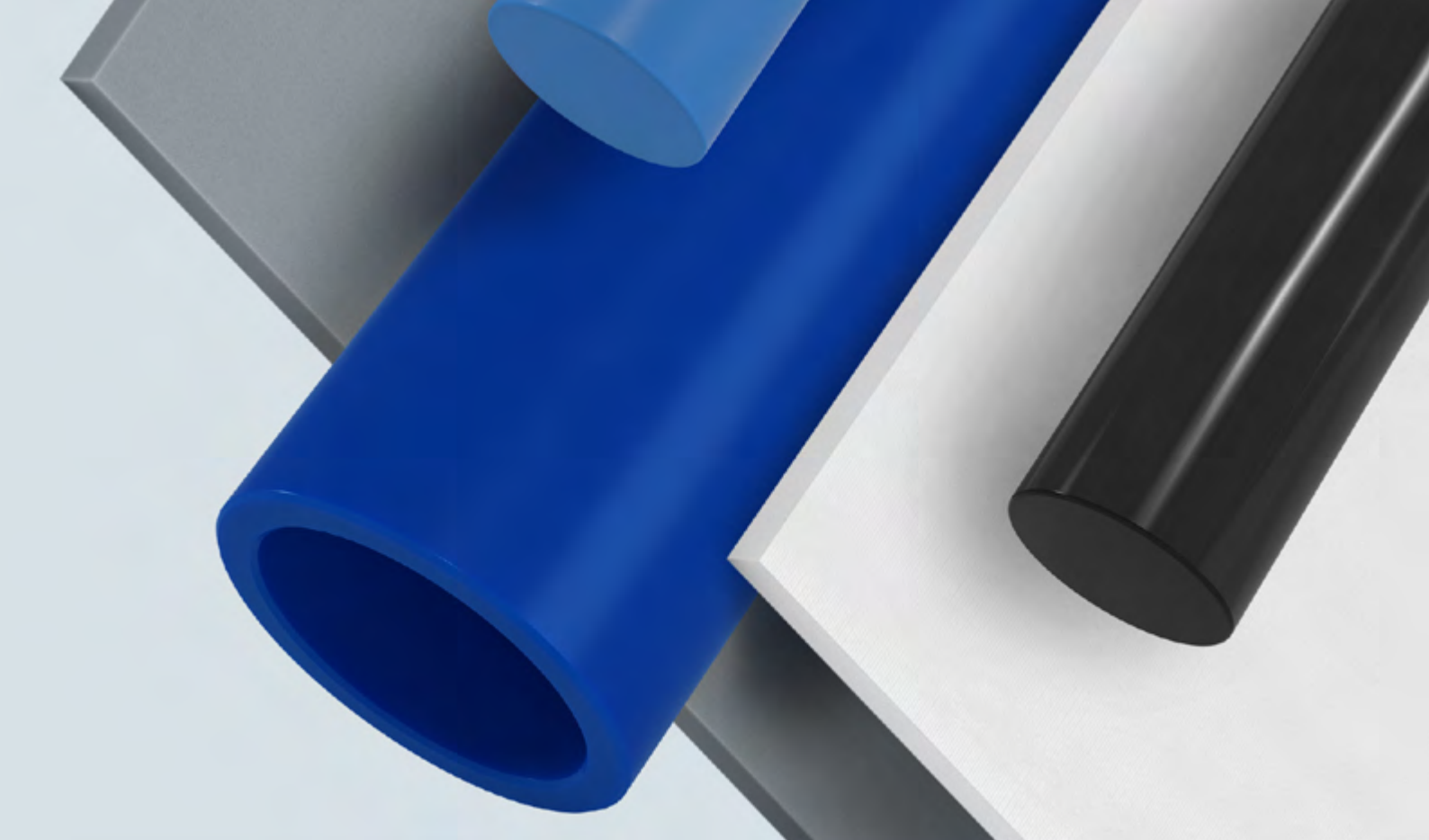
Available Geometries

 Rod  Plate

Available Colors

White, Black





Acetron™ / Ertacetal™ POM

Ertacetal™ / Acetron™ is a family of acetals with greater dimensional stability than polyamides despite having a lower wear resistance. Mitsubishi Chemical Group offers both homopolymer (POM-H) and copolymer (POM-C) grades of POM. Special formulations include an enhanced bearing grade material, a metal- and x-ray-detectable acetal, food contact compliant acetals and a range of colors.

Ertacetal™ / Acetron™ offers a range of excellent performance attributes including high mechanical strength, stiffness and hardness, great resilience and resistance to creep, high impact strength at low temperatures, low water absorption for great dimensional stability and food contact compatibility.

Acetron™ GP / Ertacetal™ C POM-C

Ertacetal™ C ELS POM-C

Ertacetal™ C LQ POM-C

Acetron™ GP FG / Ertacetal™ C FG POM-C

Ertacetal™ C NU POM-C

Acetron™ VMX FG POM-C

Acetron™ / Ertacetal™ H POM-H

Acetron™ AF Blend / Ertacetal™ H-TF POM-H

Availability of products, shapes, and colors may differ by region.

Acetron™ GP / Ertacetal™ C POM-C

Copolymer Polyoxymethylene

Acetron™ GP POM-C/Ertacetal™ C POM-C is a general purpose polyoxymethylene, copolymer acetal grade that is often favored for its porosity-free nature. These POM-C shapes also offer low moisture absorption and excellent machinability capabilities, making it a very versatile material that can excel in a multitude of environments. Due to these characteristics, Acetron™ GP/Ertacetal™ C POM-C components are used frequently for food contact applications and meet FDA, NS and Canada AG compliance requirements.

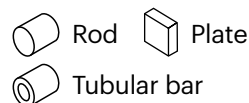
Material Properties and Benefits

- Porosity-free
- Low moisture absorption
- Excellent machinability

Technical Datasheet 



Available Geometries



Available Colors

Natural (white), Black, various other colors



Ertacetal™ C ELS POM-C

Copolymer Polyoxymethylene

Stock shapes made from Ertacetal™ C ELS POM-C copolymer acetal exhibit excellent electrical conductivity qualities, low moisture absorption, high strength and stiffness and great machinability capabilities. This grade in particular is recommended for use in electrical and explosion sensitive applications.

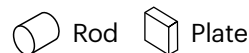
Material Properties and Benefits

- Excellent electrical conductivity
- Low moisture absorption
- High strength and stiffness
- Great machinability

Technical Datasheet 



Available Geometries



Available Colors

Black



Ertacetal™ C LQ POM-C

Copolymer Polyoxymethylene

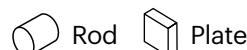
Ertacetal™ C LQ POM-C is a white/natural-colored copolymer polyoxymethylene specifically developed for laser writability via IR-YAG and UV-YAG technologies. The acetal copolymer itself is more resistant to hydrolysis, strong alkalis and thermal-oxidative degradation than the homopolymer acetal grade and offers identical physical properties and machinability to the standard Acetron™ GP/Ertacetal™ C POM-C, including low moisture absorption and porosity-free composition.



Material Properties and Benefits

- Laser-writable via IR-YAG, UV-YAG, etc.
- Resistant to hydrolysis, strong alkalis and thermal-oxidative degradation
- Porosity-free and low moisture absorption
- Excellent machinability

Available Geometries



Available Colors

White



[Technical Datasheet](#) 

Acetron™ GP FG / Ertacetal™ C FG POM-C

Copolymer Polyoxymethylene

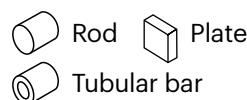
Acetron™ GP FG POM-C/Ertacetal™ C FG POM-C (Food Grade) is a general purpose polyoxymethylene, copolymer acetal grade that is favored for its porosity-free nature, as well as its higher resistance to hydrolysis, strong alkalis and thermal oxidative degradation than homopolymer acetal grades. These food grade, POM-C shapes also offer low moisture absorption and excellent machinability capabilities, making it a very versatile material that can excel in a multitude of environments. Due to these characteristics and their compliance with compositional FDA 21 CFR § 177.2470 and EU 10/2011 requirements, components made from this material are used frequently for food contact applications.



Material Properties and Benefits

- Porosity-free
- Great resistance to hydrolysis, strong alkalis and thermal oxidative degradation
- Low moisture absorption
- Excellent machinability
- Food contact compliant

Available Geometries



Available Colors

Natural (white), Black, Blue



[Technical Datasheet](#) 

Ertacetal™ C NU POM-C

Copolymer Polyoxymethylene

Ertacetal™ C NU POM-C is a polyoxymethylene, copolymer acetal grade that is often favored for its porosity-free nature. These POM-C shapes also offer low moisture absorption and excellent machinability capabilities.

Ertacetal™ C NU POM-C is PMUC-certified and has passed stringent tests by an EDF-approved laboratory to meet PMUC requirements for use on nuclear sites. Each shipment is accompanied with a PMUC certificate including production batch number.

MCG offers a range of engineering stock shape products that hold PMUC approval from third party certified laboratories in France. PMUC is the standard for products and materials used in electric, nuclear and thermal power plants.

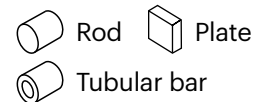
Material Properties and Benefits

- PMUC-approved for use in nuclear power plants
- Porosity-free
- Low moisture absorption
- Excellent machinability

Technical Datasheet 



Available Geometries



Available Colors

Natural (white)



Acetron™ VMX FG POM-C

Copolymer Polyoxymethylene

Acetron™ VMX FG POM-C (Food Grade) is an EU 10/2011 and compositional FDA 21 CFR § 177.2470 compliant copolymer acetal containing metal and x-ray detectable additives and has bright blue coloring for ease of visual detection. This material has been specifically tailored for use in the food processing and packaging industries where it can easily be traced by different detection systems installed to detect physical contamination in foodstuffs. Additionally, Acetron™ VMX FG POM-C presents good mechanical strength, stiffness and impact strength, making this grade especially well-suited for different applications like gears, scrapers, grippers, etc.

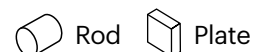
Material Properties and Benefits

- Three-way detectability: visual, metal, x-ray
- EU 10/2011 and compositional FDA 21 CFR § 177.2470 compliant
- Good mechanical strength
- Good mechanical stiffness
- Impact resistant

Technical Datasheet 



Available Geometries



Available Colors

Blue



Acetron™ / Ertacetal™ H POM-H

Homopolymer Polyoxymethylene

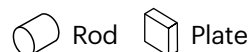
Acetron™/Ertacetal™ H POM-H is a polyoxymethylene homopolymer acetal grade that offers superior mechanical strength, stiffness, hardness and creep resistance, in addition to a much lower thermal expansion rate and increased wear resistance when compared to copolymer acetal grades. Due to these characteristics, Acetron™ POM-H/Ertacetal™ H POM-H excels in a variety of applications including small diameter, thin-walled bushings and bearings, gears, electrical components, valves and fluid handling components.



Material Properties and Benefits

- Excellent mechanical properties allows use of standard fasteners
- Excellent stability and machining properties reduce machining cost
- Durability of material allows easy installation and removal (low distortion)
- Chemical resistance enables very long service lifetime
- High impact strength, even at low temperatures
- Very good dimensional stability (low water absorption)

Available Geometries



Available Colors

Natural (white), Black

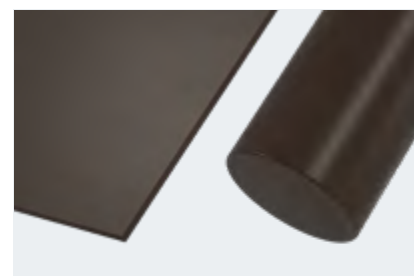


[Technical Datasheet](#) 

Acetron™ AF Blend / Ertacetal™ H-TF POM-H

Homopolymer Polyoxymethylene

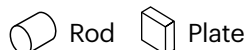
Acetron™ AF Blend/Ertacetal™ H-TF POM-H is a unique thermoplastic material for use in moving parts where low friction and long wear resistance are important. The material has a high strength, toughness, dimensional stability and good machinability as well as improved wear characteristics over unfilled POM-H. Unblended Acetron™ AF Blend/Ertacetal™ H-TF POM-H offers a slightly higher limiting PV and lower coefficient of friction due to additional PTFE content. This added PTFE typically decreases the wear capability and impact strength. Acetron™ AF 100 is available on a custom basis.



Material Properties and Benefits

- Low friction, long wearing
- High strength and toughness
- High dimensional stability and machinability

Available Geometries

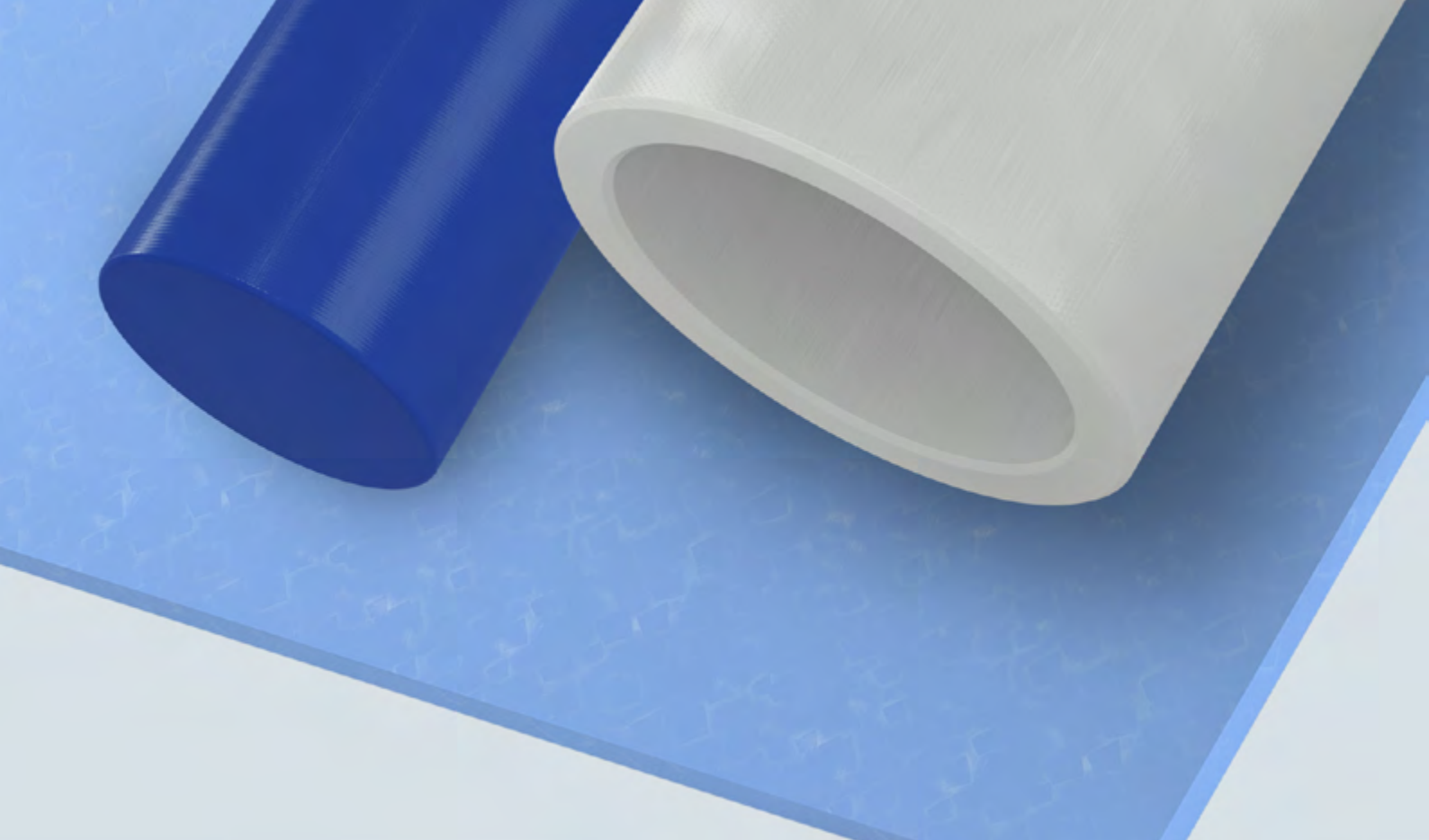


Available Colors

Dark-brown



[Technical Datasheet](#) 



Ertalyte™ PET-P

Ertalyte™ is a family of unreinforced, semi-crystalline thermoplastic polyester based on polyethylene terephthalate (PET-P) products. The specific properties of virgin crystalline PET-P make it especially suitable for the manufacture of mechanical precision parts must endure high loads and wear conditions. It is characterized as having excellent dimensional stability coupled with excellent wear resistance, a low coefficient of friction, high strength, and resistance to moderately acidic solutions. Ertalyte™'s continuous service temperature is 100°C (210°F) and its melting point is almost 150°F higher than acetals. It retains significantly more of its original strength up to 85°C (180°F) than nylon or acetal. For food-grade PET-P, Ertalyte™ grades are excellent candidates for parts used in the food processing and equipment industries.

Ertalyte™ PET-P

Ertalyte™ FG PET-P

Ertalyte™ NU PET-P

Ertalyte™ SLP PET-P

Ertalyte™ TX PET-P

Ertalyte™ TX FG PET-P

Ertalyte™ TX-G2 FG PET-P

Availability of products, shapes, and colors may differ by region.

Ertalyte™ PET-P

Polyethylene Terephthalate

Ertalyte™ PET-P is an unreinforced, semi-crystalline grade produced from our proprietary resins and characterized by its excellent wear resistance, low coefficient of friction, high strength and resistance to moderately acidic solutions. This grade is capable of sustaining high loads and retains more of its original strength up to 85°C (180°F) than nylons or acetals. Due to these characteristics, Ertalyte™ PET-P components are a favored solution for bearing and structural applications throughout the pharmaceutical, food processing & packaging and oil & gas industries.

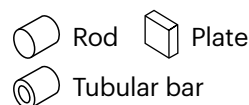
Material Properties and Benefits

- Excellent wear resistance and low coefficient of friction (COF)
- High strength
- Resistant to moderately acidic solutions
- High load-bearing capacity
- Great strength retention up to 85°C (180°F)

[Technical Datasheet](#) 



Available Geometries



Available Colors

Natural (white), Black



Ertalyte™ FG PET-P

Polyethylene Terephthalate

Produced from our proprietary resin grades, Ertalyte™ FG PET-P (Food Grade) is an unreinforced, semi-crystalline grade that is characterized by its excellent wear resistance, low coefficient of friction, high strength and resistance to moderately acidic solutions. This grade is capable of sustaining high loads and retains more of its original strength up to 85°C (180°F) than nylons or acetals. Due to these characteristics and its FDA (compositional FDA 21 CFR § 177.1630) and EU 10/2011 food compliant composition, Ertalyte™ FG PET-P components are a favored solution for bearing and structural applications throughout the pharmaceutical, food processing & packaging and oil & gas industries.

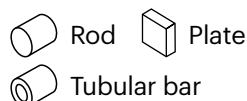
Material Properties and Benefits

- Excellent wear resistance and low coefficient of friction (COF)
- FDA 21 CFR § 177.1630 and EU 10/2011 food compliant
- High strength
- Resistant to moderately acidic solutions
- High load-bearing capacity
- Great strength retention up to 85°C (180°F)

[Technical Datasheet](#) 



Available Geometries



Available Colors

Natural (white), Black, Blue



Ertalyte™ NU PET-P

Polyethylene Terephthalate

Ertalyte™ NU PET-P is an unreinforced, semi-crystalline grade produced from our proprietary resins and characterized by its excellent wear resistance, low coefficient of friction, high strength and resistance to moderately acidic solutions. This grade is capable of sustaining high loads and retains more of its original strength up to 85°C (180°F) than nylons or acetals.

Ertalyte™ NU PET-P is PMUC-certified and has passed stringent tests by an EDF-approved laboratory to meet PMUC requirements for use on nuclear sites. Each shipment is accompanied with a PMUC certificate including production batch number.

MCG offers a range of engineering stock shape products that hold PMUC approval from third party certified laboratories in France. PMUC is the standard for products and materials used in electric, nuclear and thermal power plants.

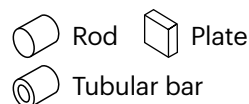
Material Properties and Benefits

- PMUC-approved for use in nuclear power plants
- Excellent wear resistance and low coefficient of friction (COF)
- High strength
- Resistant to moderately acidic solutions
- High load-bearing capacity
- Great strength retention up to 85°C (180°F)

[Technical Datasheet](#) 



Available Geometries



Available Colors

Natural (white)



Ertalyte™ SLP PET-P

Polyethylene Terephthalate

Ertalyte™ SLP PET-P is a bearing grade that offers excellent wear resistance, low coefficient of friction and high strength. Developed specifically for use in wind turbines to change yaw systems from roller bearings into cost-effective slide bearings, this specialty PET-P exhibits low wear, low friction and high load capabilities. The material is also more rigid and provides better thermal performance than nylons or acetals.

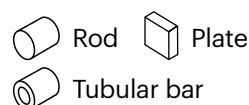
Material Properties and Benefits

- Excellent wear resistance and low coefficient of friction (COF)
- High mechanical strength, high load capabilities
- Greater rigidity and better thermal performance than nylons or acetals
- Developed specifically for use in wind turbine yaw systems

[Technical Datasheet](#) 



Available Geometries



Available Colors

Blue



Ertalyte™ TX PET-P

Polyethylene Terephthalate

Ertalyte™ TX PET-P is a premium internally lubricated bearing grade that exhibits superior dimensional stability and wear resistance, a low coefficient of friction, high strength and rigidity, outstanding stain resistance and great chemical and abrasion resistance. Due to Ertalyte™ TX PET-P's low moisture absorption rate, this grade's mechanical and electrical properties are unaffected by moisture, which gives this grade better wear and inertness over nylon and acetal products and also a lower wear rate than unmodified polyesters. These characteristics make Ertalyte™ TX PET-P ideal for use in applications that involve high pressure and velocity conditions and environments with soft metal and plastic mating surfaces where noise abatement is critical.

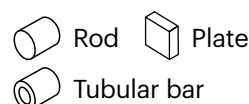
Material Properties and Benefits

- High mechanical strength, stiffness and hardness
- Low and constant coefficient of friction (COF)
- Excellent wear resistance (better than nylon and acetal)
- Very good dimensional stability (better than polyacetal)
-

[Technical Datasheet](#) 



Available Geometries



Available Colors

Light-gray, Light-blue



Ertalyte™ TX FG PET-P

Polyethylene Terephthalate

Ertalyte™ TX FG PET-P (Food Grade) is an unreinforced, semi-crystalline grade that exhibits superior dimensional stability, excellent wear resistance, a low coefficient of friction, high strength and rigidity, outstanding stain resistance and great chemical and abrasion resistance. This grade's mechanical and electrical properties are unaffected by moisture, which gives this grade better wear and inertness than nylon and acetal products, as well as a lower wear rate than unmodified polyesters. Due to this grade's FDA (compositional FDA 21 CFR § 177.2470) and EU 10/2011 food compliant composition, Ertalyte™ TX FG PET-P components are a favored solution for high pressure and velocity conditions and environments with soft metal and plastic mating surfaces where noise abatement is critical.

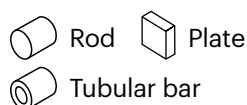
Material Properties and Benefits

- Superior dimensional stability
- Low moisture absorption rate
- Excellent wear resistance with a low coefficient of friction (COF)
- High strength and rigidity
- Ideal for high pressure and velocity conditions

[Technical Datasheet](#) 



Available Geometries



Available Colors

Light-gray, Light-blue



Ertalyte™ TX-G2 FG PET-P

Polyethylene Terephthalate

Ertalyte™ TX-G2 FG PET-P provides an alternative to Ertalyte™ TX FG PET-P based on non-fluorinated* chemistries and a manufacturing process that does not intentionally add per- and polyfluoroalkyl substances (PFAS), as defined in the Annex XV restriction proposal published on 22nd March 2023. *(Based on information provided by our raw material suppliers, and on knowledge of our finished product compositions.)

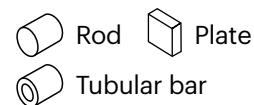
Ertalyte™ TX-G2 FG PET-P is a semi-crystalline, food approved grade that exhibits superior dimensional stability, excellent wear resistance, a low coefficient of friction, high strength and rigidity, outstanding stain resistance and great chemical and abrasion resistance. Due to its low moisture absorption rate, this grade's mechanical and electrical properties are unaffected by moisture, which gives this grade better wear and inertness than nylon and acetal products, as well as a lower wear rate than unmodified polyesters. Due to these characteristics and this grade's FDA (compositional FDA 21 CFR § 177.2470) and EU 10/2011 food compliant composition, Ertalyte™ TX-G2 FG PET-P components are a favored solution for use in applications that involve high pressure and velocity conditions and environments with soft metal and plastic mating surfaces where noise abatement is critical.



Material Properties and Benefits

- Processed from non-fluorinated chemistries and manufactured without intentionally adding per- and polyfluoroalkyl substances (PFAS)
- High mechanical strength, stiffness and hardness
- Very good creep resistance
- Low and constant coefficient of friction
- Excellent wear resistance (comparable to or even better than Nylon grades)
- Very good dimensional stability (better than Polyacetal)

Available Geometries

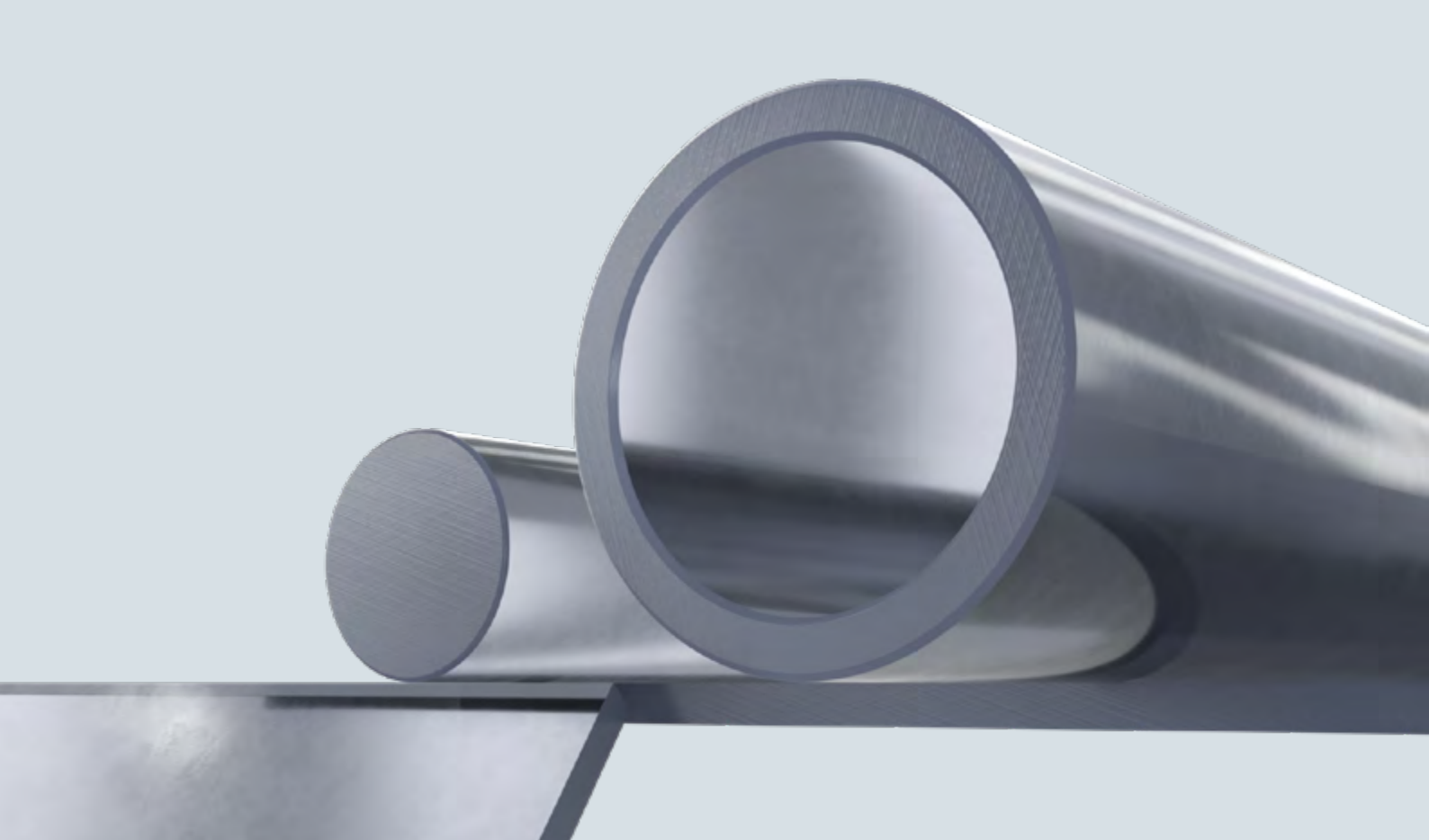


Available Colors

Light-gray, Light-blue



[Technical Datasheet](#) 



Altron™ PC

Altron™ is a range of polycarbonate, polyphenylene oxide and polyvinyl chloride shapes offering excellent mechanical, electrical and chemical resistance properties as well as mid-range temperature resistance.

Altron™ PC

Altron™ PPO

Availability of products, shapes, and colors may differ by region.

Altron™ PC

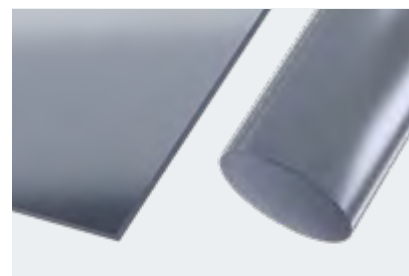
Polycarbonate

Altron™ PC shapes are produced from select batches of non-UV stabilized polycarbonate resin that complies with EU and FDA regulations, for plastics intended to come into contact with food products. This grade in particular is a transparent, amorphous thermoplastic that offers superior impact strength and elasticity, minimal moisture absorption and outstanding resistance to acidic solutions. These features, in addition to this grade's exceptional electrical characteristics, make Altron™ PC an excellent solution for semiconductor and electronics applications, as well as transparent structural applications.

Material Properties and Benefits

- Superior impact strength
- Superior flexural modulus of elasticity
- Minimal moisture absorption
- Outstanding resistance to acids
- Great electrical characteristics

[Technical Datasheet](#) 



Available Geometries

 Rod  Plate

Available Colors

Transparent



Altron™ PPO

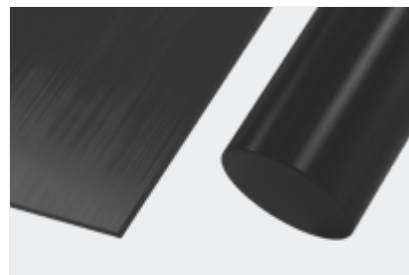
Polyphenylene Oxide

Altron™ PPO (polyphenylene oxide) shapes are characterized by their excellent electrical insulating properties, great stability and mid-range temperature resistance. These properties, in addition to good electrical characteristics, make these stock shapes an excellent choice for electrical/electronic applications.

Material Properties and Benefits

- Excellent electrical insulating properties and great stability
- Mid-range temperature resistance
- Transparent
- Economical thermal performance
- Good dielectric properties

[Technical Datasheet](#) 



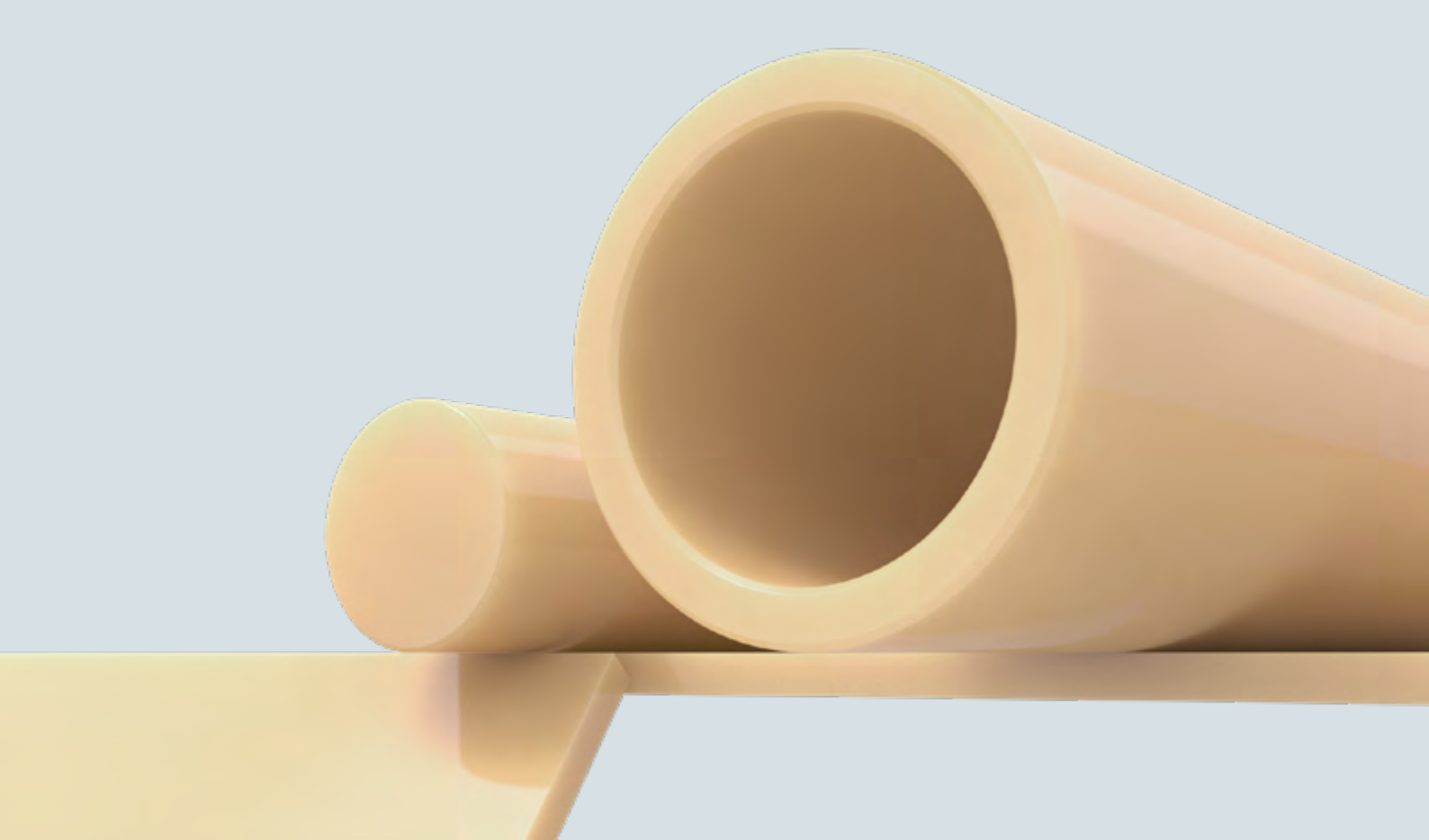
Available Geometries

 Rod  Plate

Available Colors

Transparent (natural), Black





Flextron™ TPE

Flextron™ Thermoplastic Elastomer (TPE) materials are a group of copolymers which include both thermoplastic and elastomeric properties. They are outstanding in applications where superior performance over conventional elastomers is required.

Availability of products, shapes, and colors may differ by region.

Flextron™ 1055 TPE

Thermoplastic Elastomer

Flextron™ 1055 TPE are thermoplastic elastomer shapes that excel in applications where superior performance over conventional elastomers is required. This grade displays excellent chemical resistance properties, while maintaining its consistent mechanical capabilities over a broad temperature range. Due to these characteristics, Flextron™ 1055 TPE components are favored as a solution within the transportation and railway industries, where they often replace conventional rubbers and steels in high performance springs that are used in rolling stock buffer, draw gear and draft gear applications.

Material Properties and Benefits

- Excellent chemical resistance
- Consistent mechanical capabilities over a broad temperature range
- Superior performance over conventional elastomers

Technical Datasheet 



Available Geometries

 Rod  Plate

Available Colors

Natural (off-white)





TIVAR™ 1000 UHMW-PE

An excellent general-purpose material, TIVAR™ UHMW-PE offers solutions for an endless range of sliding and wear applications across multiple industries. It comes in natural color and many color variations and meets diverse guidelines and regulatory requirements in the Food industry and other segments. From food processing to packaging, bulk material handling to pharmaceutical processing TIVAR™ can improve your business performance. If your process machinery has problems with noise, premature wear, stretched chains, unscheduled downtime or expensive replacements, TIVAR™ solves those problems and your machinery runs longer and smoother.

TIVAR™ 1000 Virgin UHMW-PE

TIVAR™ 1000 FG UHMW-PE

TIVAR™ 1000 colors UHMW-PE

TIVAR™ 1000 colors FG UHMW-PE

TIVAR™ UV-resistant UHMW-PE

TIVAR™ ESD UHMW-PE/

TIVAR™ Antistatic UHMW-PE

TIVAR™ ESD FG UHMW-PE

TIVAR™ ASTL FG UHMW-PE

TIVAR™ EC UHMW-PE

Availability of products, shapes, and colors may differ by region.

TIVAR™ 1000 Virgin UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ 1000 Virgin UHMW-PE sets the standard for ultra high molecular weight polyethylene shapes, offering a well-balanced property profile that includes a unique combination of wear and corrosion resistance, a low friction surface, excellent impact strength and FDA compliant composition. This UHMW-PE is an incredibly versatile engineered polymer that is prevalent in a variety of industries and applications. TIVAR™ 1000 Virgin UHMW-PE components are often favored as solutions for bearings, bushings, chain guides, sprockets, gears, rollers, paddles and scrapers.

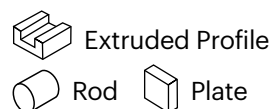


Material Properties and Benefits

- High wear and corrosion resistance
- Low friction surface
- Excellent impact strength

Technical Datasheet 

Available Geometries



Available Colors

Natural (off-white), White, Black, Green



TIVAR™ 1000 FG UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ 1000 FG UHMW-PE (Food Grade) shapes have a well-balanced property profile with a unique combination of wear and corrosion resistance, a low friction surface, excellent impact strength and are FDA (21 CFR § 177.1520) and EU 10/2011 compliant. This grade sets the standard for engineered polymers and is prevalent in a variety of industries and applications. For these reasons, TIVAR™ 1000 FG UHMW-PE components are often favored as solutions for bearings, bushings, chain guides, sprockets, gears, rollers, paddles and scrapers.

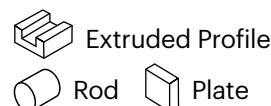


Material Properties and Benefits

- FDA (21 CFR § 177.1520) and EU 10/2011 compliant
- Low friction surface
- Excellent impact strength
- Wear and corrosion resistance

Technical Datasheet 

Available Geometries



Available Colors

Natural (off-white), White, Black, Green



TIVAR™ 1000 colors UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ 1000 colors UHMW-PE shapes have a well-balanced property profile with a unique combination of wear and corrosion resistance, a low friction surface, excellent impact strength and FDA-compliant composition. This grade sets the standard for engineered polymers and is prevalent in a variety of industries and applications. For these reasons, TIVAR™ 1000 colors UHMW-PE components are often favored as solutions for bearings, bushings, chain guides, sprockets, gears, rollers, paddles and scrapers.

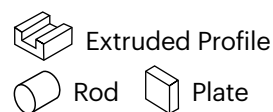
Material Properties and Benefits

- Reduces noise
- Chemical, corrosion and wear resistant
- No moisture absorption
- Non-toxic, low friction surface

Technical Datasheet 



Available Geometries



Available Colors

White, Black, Blue, Green, Red, Yellow, Grey, Brown



TIVAR™ 1000 colors FG UHMW-PE

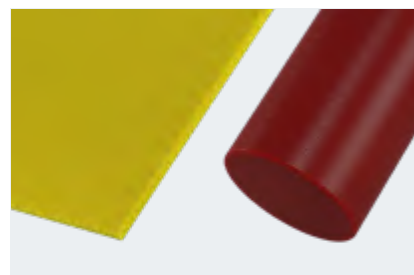
Ultra High Molecular Weight Polyethylene

Available in a range of colors, TIVAR™ 1000 FG colors UHMW-PE (Food Grade) shapes have a well-balanced property profile with a unique combination of wear and corrosion resistance, a low friction surface, excellent impact strength and are FDA (21 CFR § 177.1520)/EU 10/2011 compliant. This grade sets the standard for engineered polymers and is prevalent in a variety of industries and applications. For these reasons, TIVAR™ 1000 FG colors UHMW-PE components are often favored as solutions for bearings, bushings, chain guides, sprockets, gears, rollers, paddles and scrapers.

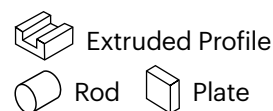
Material Properties and Benefits

- FDA (21 CFR § 177.1520) and EU 10/2011 compliant
- Low friction surface
- Excellent impact strength
- Wear and corrosion resistance

Technical Datasheet 



Available Geometries



Available Colors

White, Black, Blue, Green, Red, Yellow, Grey, Brown



TIVAR™ UV-resistant UHMW-PE

Ultra High Molecular Weight Polyethylene

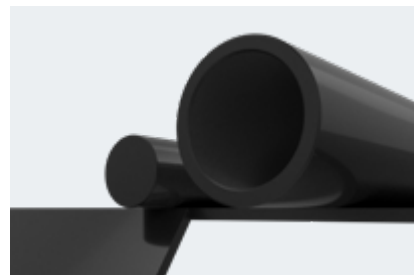
TIVAR™ UV-resistant UHMW-PE retains all the key properties of TIVAR™ and exhibits enhanced stability for outdoor, UV-exposed applications.

It has excellent abrasion resistance and impact strength, a low coefficient of friction, no moisture absorption and corrosion resistance. In agricultural applications, TIVAR™ UV extends the life and performance of field equipment. Parts made from this material won't corrode or freeze, offering extended life and improved performance whether used on new machinery or as retrofits on weathered equipment.

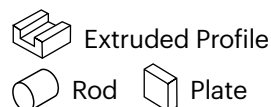
Material Properties and Benefits

- Excellent outdoor stability
- Retains key properties up to three times longer than non-UV formulations in outside use
- Reduces noise
- Corrosion-resistant
- No moisture absorption

Technical Datasheet 



Available Geometries



Available Colors

White, Black



TIVAR™ ESD UHMW-PE/TIVAR™ Antistatic UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ ESD UHMW-PE/TIVAR™ Antistatic UHMW-PE electro static dissipative, carbon-filled shapes protect against electrical charge build-up on wear surfaces. In addition to these characteristics, TIVAR™ ESD UHMW-PE/TIVAR™ Antistatic UHMW-PE components exhibit excellent corrosion resistance and zero moisture absorption in robotic and conveyor equipment parts that are especially sensitive to electrical charge build-up. For these reasons, this TIVAR™ grade is often favored as a solution in chain guides, chute liners, guide rails, wear stripe, transfer plates, bearings and assembly conveyor components.

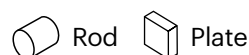
Material Properties and Benefits

- Protects against electrical charge build-up
- Reduces noise
- Corrosion-resistant
- No moisture absorption

Technical Datasheet 



Available Geometries



Available Colors

Black



TIVAR™ ESD FG UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ ESD FG UHMW-PE (Food Grade) is an electro static dissipative, carbon-filled UHMW-PE that protects against electrical charge build-up on wear surfaces. In addition to these characteristics, components made from this material exhibit excellent corrosion resistance and zero moisture absorption in robotic and conveyor equipment parts that are especially sensitive to electrical charge build-up. Due to these properties, and its EU 10/2011 food compliancy, this TIVAR™ grade is often favored as a solution in chain guides, chute liners, guide rails, wear stripe, transfer plates, bearings and assembly conveyor components.

Material Properties and Benefits

- Carbon-filled
- Discharges electrostatic build-up on wear surfaces
- EU 10/2011 food compliancy
- Excellent corrosion resistance
- Zero moisture absorption

Technical Datasheet 



Available Geometries



Available Colors

Black



TIVAR™ ASTL FG UHMW-PE

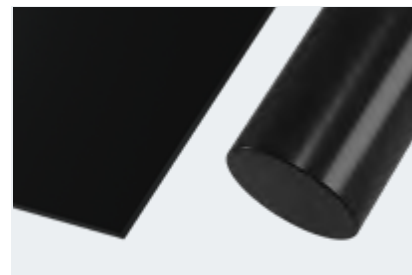
Ultra High Molecular Weight Polyethylene

TIVAR™ ASTL FG UHMW-PE (Food Grade), based on a polyethylene grade with extremely high molecular weight, was specifically developed for tough anti-abrasion applications. TIVAR™ ASTL FG UHMW-PE exhibits higher resistance to wear and abrasion and a lower surface resistivity than TIVAR™ ESD FG UHMW-PE. The additives used also render this material static dissipative and highly UV-resistant. The material is compliant with FDA (21 CFR § 177.1520) and EU 10/2011 regulations.

Material Properties and Benefits

- FDA (21 CFR § 177.1520) and EU 10/2011 compliant
- Low friction surface
- Excellent impact strength
- Wear and corrosion resistance

Technical Datasheet 



Available Geometries



Available Colors

Black



TIVAR™ EC UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ EC UHMW-PE (electrical conductive) shapes provide improved protection against electrical charge build-up, by offering increased conductivity to quickly move the charge away from the application environment. In addition to these characteristics, TIVAR™ EC UHMW-PE components exhibit excellent abrasion resistance, superior impact strength, zero moisture absorption, outstanding corrosion resistance, and a low coefficient of friction. For these reasons, this grade is often a favored solution for assembly conveyor components, bearings, chain guides, chute liners, guide rails, transfer plates and wear strips.

Material Properties and Benefits

- Lower surface resistivity than TIVAR™ ESD UHMW-PE/ TIVAR™ Antistatic UHMW-PE
- Improved electrical conductivity
- Improved UV-resistance
- Reduces noise
- Corrosion-resistant

Technical Datasheet 



Available Geometries

 Rod  Plate

Available Colors

Black





TIVAR™ UHMW-PE Specialty Materials

The large TIVAR™ UHMW-PE family comes with a range of specialty formulations that enhance the properties and performance of this standard engineering polymer. Unique combinations of wear, corrosion, friction, impact, moisture and chemical properties render the specialty materials ideal for a broad range of applications across many industries.

TIVAR™ BurnGuard
UHMW-PE

TIVAR™ Ceram P™
UHMW-PE

TIVAR™ Ceram P™
FG UHMW-PE

TIVAR™ Cestidur FG
UHMW-PE

TIVAR™ Cestidur
NU UHMW-PE

TIVAR™ CleanStat
UHMW-PE

TIVAR™ CleanStat FG
UHMW-PE

TIVAR™ CleanStat™ EC FG
UHMW-PE

TIVAR™ DrySlide
UHMW-PE

TIVAR™ DS FG
UHMW-PE

TIVAR™ H.O.T.
UHMW-PE

TIVAR™ H.O.T. FG
UHMW-PE

TIVAR™ H.O.T-G2 FG
UHMW-PE

TIVAR™ HPV
UHMW-PE

TIVAR™ HPV FG
UHMW-PE

TIVAR™ Oil Filled
UHMW-PE

TIVAR™ Premium
UHMW-PE

TIVAR™ SuperPlus
UHMW-PE

TIVAR™ TECH
UHMW-PE

TIVAR™ VMX FG
UHMW-PE

TIVAR™ Xtended Wear
UHMW-PE

TIVAR™ 1000 NU
UHMW-PE

Availability of products, shapes, and colors may differ by region.

TIVAR™ BurnGuard UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ BurnGuard UHMW-PE is a static dissipative and flame retardant material specifically developed to improve the flammability behavior of unfilled polyethylene grades. This grade in particular possesses a UL94 V-0 flammability rating. Due to these characteristics, TIVAR™ BurnGuard excels in applications where key components may be exposed to combustion such as bunker and chute liners, hopper liners, self-unloading ships, railcar liners, dragline buckets, belt scrapers, storage bin liners, vibratory feeder liners and wear strips.

Material Properties and Benefits

- Static dissipative
- Flame retardant
- UL94 V-0 flammability rating
- Ideal for components exposed to combustion

[Technical Datasheet](#) 



Available Geometries



Plate

Available Colors

Black-silver



TIVAR™ Ceram P™ UHMW-PE

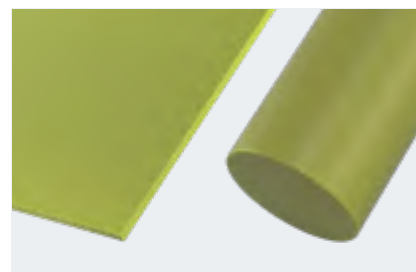
Ultra High Molecular Weight Polyethylene

TIVAR™ Ceram P™ UHMW-PE self-lubricating, glass-filled shapes excel in applications where high load, high speed and severe sliding capabilities are required. Easily recognizable by its bright green color, this grade is characterized by its exceptional wear and corrosion resistance, minimal moisture absorption and high tensile strength over standard UHMW grades, ultimately resulting in increased part life and reduced maintenance downtime. For these reasons, TIVAR™ Ceram P™ UHMW-PE components are prevalent in the agriculture, lumber processing, material handling and pulp, paper and steel milling industries.

Material Properties and Benefits

- High load, high-speed, abrasive applications
- Reduces noise
- Self-lubricating
- Corrosion and wear resistant
- No moisture absorption

[Technical Datasheet](#) 



Available Geometries



Extruded Profile



Rod



Plate

Available Colors

Yellow-green



TIVAR™ Ceram P™ FG UHMW-PE

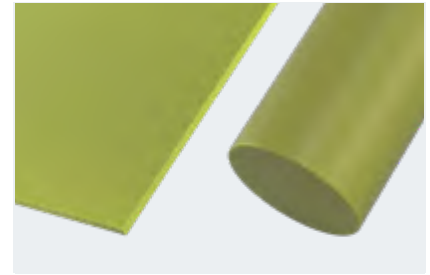
Ultra High Molecular Weight Polyethylene

TIVAR™ Ceram P™ FG UHMW-PE (Food Grade) is a self-lubricating, glass-filled material that excels in applications where high load, high speed and severe sliding capabilities are required. Easily recognizable by its bright green color, this grade is characterized by its exceptional wear and corrosion resistance, minimal moisture absorption and high tensile strength over standard UHMW grades, ultimately resulting in increased part life and reduced maintenance downtime. For these reasons, TIVAR™ Ceram P™ FG UHMW-PE components are prevalent in the agriculture, lumber processing, material handling and pulp, paper and steel milling industries. It also is EU 10/2011 and FDA 21 CFR § 177.1520 compliant which makes this grade ideal for components and replacement parts in food processing and packaging plants.

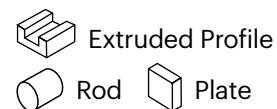
Material Properties and Benefits

- Self-lubricating, great wear and sliding properties
- High velocity load-bearing capabilities
- Exceptional corrosion resistance
- Minimal moisture absorption and high tensile strength
- Increases part life and mean time between repair
- EU 10/2011 and FDA 21 CFR § 177.1520 compliant

[Technical Datasheet](#) 



Available Geometries



Available Colors

Yellow-green



TIVAR™ Cestidur FG UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ Cestidur FG UHMW-PE is a modified food grade material with extremely high molecular weight (average 9E6 g/mol). Its high molecular weight in combination with a particular manufacturing process result in a PE grade with superior wear and abrasion resistance over TIVAR™ 1000 UHMW-PE. The material is compliant with FDA (21 CFR § 177.1520) and EU 10/2011 requirements.

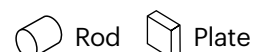
Material Properties and Benefits

- Internal lubrication for greater resistance to abrasion and wear
- EU 10/2011 and compositional FDA 21 CFR § 177.2470 compliant
- Good slip properties
- Good impact resistance, even at temperatures below -200° C
- Easily machinable

[Technical Datasheet](#) 



Available Geometries



Available Colors

Gray



TIVAR™ Cestidur NU UHMW-PE

Ultra High Molecular Weight Polyethylen

TIVAR™ Cestidur NU UHMW-PE is a modified material with extremely high molecular weight (average 9E6 g/mol). This, in combination with a particular manufacturing process, results in a PE grade with superior wear and abrasion resistance over TIVAR™ 1000 NU UHMW-PE.

TIVAR™ Cestidur NU UHMW-PE is PMUC-certified and has passed stringent tests by an EDF-approved laboratory to meet PMUC requirements for use on nuclear sites. Each shipment is accompanied with a PMUC certificate including production batch number. PMUC is the standard for products and materials used in electric, nuclear and thermal power plants.

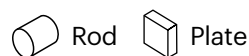
Material Properties and Benefits

- PMUC-approved for use in nuclear power plants
- Internal lubrication for greater resistance to abrasion and wear
- Good slip properties
- Good impact resistance, even at temperatures below -200° C (-392°F)
- Easily machinable

[Technical Datasheet](#) 



Available Geometries



Available Colors

Gray



TIVAR™ CleanStat UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ CleanStat UHMW-PE electro static dissipative shapes are FDA 21 CFR § 177.1520 compliant, which makes them a favored solution within the food processing and pharmaceutical industries. TIVAR™ CleanStat UHMW-PE components exhibit superior corrosion and wear resistance, zero moisture absorption and outstanding welding capabilities. This grade can be easily fabricated into components and replacement parts that reduce noise levels and require less frequent cleaning in food processing and packaging plants.

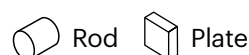
Material Properties and Benefits

- FDA 21 CFR § 177.1520 food contact compliance
- Electrostatic dissipative
- Superior corrosion and wear resistance
- Zero moisture absorption
- Easy to weld

[Technical Datasheet](#) 



Available Geometries



Available Colors

White, Black



TIVAR™ CleanStat FG UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ CleanStat FG UHMW-PE is a food grade material with electro static dissipative properties and EU 10/2011 and FDA 21 CFR § 177.1520 food contact compliance. The material is a favored solution within the food processing and pharmaceutical industries for its superior corrosion and wear resistance, zero moisture absorption and good welding capabilities. For these reasons, this grade can be easily fabricated into components and replacement parts that reduce noise levels and require less frequent cleaning in food processing and packaging plants.

Material Properties and Benefits

- EU 10/2011 and FDA 21 CFR § 177.1520 food contact compliance
- Electrostatic dissipative
- Superior corrosion and wear resistance
- Zero moisture absorption
- Easy to weld

Technical Datasheet 



Available Geometries



Available Colors

Black



TIVAR™ CleanStat EC FG UHMW-PE

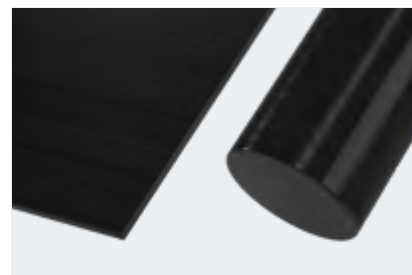
Ultra High Molecular Weight Polyethylene

TIVAR™ CleanStat EC FG UHMW-PE (Food Grade) is electrically conductive and meets both EU and FDA compliance requirements for food contact applications. It provides clean surfaces and edges after machining, is laser-markable and has a surface resistivity of $\leq 10E4$ Ohm/sq. It is also chemically resistant to a wide range of cleaning agents and attracts less dust than standard ESD materials, providing a cleaner work environment. The use of TIVAR™ CleanStat EC FG UHMW-PE is recommended for food and pharmaceutical packaging applications, sliding and gliding strips, manifolds, valves and conveyor stars.

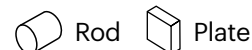
Material Properties and Benefits

- EU 10/2011 and FDA food contact compliance
- Surface resistivity of $\leq 10E4$ Ohm/sq.
- Easy to machine
- Laser-markable surface
- Less dust for a cleaner work environment
- Good chemical resistance

Technical Datasheet 



Available Geometries



Available Colors

Black



TIVAR™ DrySlide UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ DrySlide UHMW-PE is a product with an internal lubricant built into the polymer matrix with higher molecular weight. Because of this lubrication, TIVAR™ DrySlide UHMW-PE offers a lower coefficient of friction and enhanced wear and abrasion resistance than TIVAR™ 1000 UHMW-PE. The additives used also make this material static dissipative and considerably improve UV-resistance.

Material Properties and Benefits

- Internal lubricant built into polymer matrix
- Lower coefficient of friction (COF) than standard UHMW-PE
- Enhanced wear and abrasion resistance
- Static dissipative with some UV-resistance

[Technical Datasheet](#) 



Available Geometries

 Rod  Plate

Available Colors

Black



TIVAR™ DS FG UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ DS FG UHMW-PE (Food Grade) is a modified PE with extremely high molecular weight (average 9E6 g/mol) which, when combined with Mitsubishi Chemical Group's sophisticated manufacturing process, results in a UHMW-PE with superior wear and abrasion resistance over the standard TIVAR™ 1000 UHMW-PE. TIVAR™ DS FG UHMW-PE also is EU 10/2011 and FDA 21 CFR § 177.1520 compliant, making this grade ideal for components and replacement parts in food processing and packaging plants.

Material Properties and Benefits

- Extremely high molecular weight
- EU 10/2011 and FDA 21 CFR § 177.1520 compliant
- Superior wear and abrasion resistance
- Internal lubrication
- Good slip resistance
- Good impact resistance

[Technical Datasheet](#) 



Available Geometries

 Rod  Plate

Available Colors

Gray, Yellow



TIVAR™ H.O.T. UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ H.O.T. UHMW-PE (Higher Operating Temperature) is a premium grade that is formulated to help finished components maintain key performance properties in an extended temperature range. TIVAR™ H.O.T. UHMW-PE excels in a variety of industrial manufacturing environments where temperatures reach up to 135°C (275°F). Furthermore, TIVAR™ H.O.T. UHMW-PE components are compliant with FDA requirements, making this material the ideal, longer life thermoplastic for wear parts in dairy, bakery, poultry/meat and other food processing industries where higher temperatures or frequent chemical wash downs shorten part life.

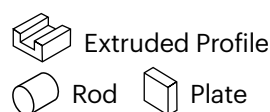


Material Properties and Benefits

- Components maintain performance at temperatures as high as 135°C (275°F).
- Excellent wear resistance at elevated temperatures
- Resistant to chemical cleaning agents
- Compliant with FDA and requirements

Technical Datasheet 

Available Geometries



Available Colors

White, Blue, Red, Yellow



TIVAR™ H.O.T. FG UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ H.O.T. FG UHMW-PE (Food Grade) shapes are formulated to maintain key performance properties at higher operating temperature ranges. This UHMW-PE grade excels in a variety of industrial manufacturing environments with operating temperature of up 135°C (275°F). Components made from TIVAR™ H.O.T. FG UHMW-PE are compliant with EU 10/2011 and FDA 21 CFR § 177.1520, making them the ideal, longer-lasting material for wear parts in dairy, bakery, poultry/meat and other food processing industries where higher temperatures or frequent chemical wash downs shorten part life.

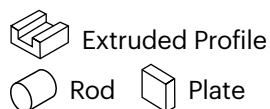


Material Properties and Benefits

- Maintains performance at temperatures up to 135°C (275°F)
- Excellent wear and chemical resistance
- Compliant with EU 10/2011 and FDA 21 CFR § 177.1520 standards

Technical Datasheet 

Available Geometries



Available Colors

White, Blue



TIVAR™ H.O.T-G2 FG UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ H.O.T-G2 FG UHMW-PE (Food Grade) provides an alternative to TIVAR™ H.O.T. FG UHMW-PE, based on non-fluorinated* chemistries and a manufacturing process that does not intentionally add per- and polyfluoroalkyl substances (PFAS), as defined in the Annex XV restriction proposal published on 22nd March 2023. *(Based on information provided by our raw material suppliers, and on knowledge of our finished product compositions.)

TIVAR™ H.O.T-G2 FG UHMW-PE shapes are formulated to maintain key performance properties at higher operating temperature ranges. This UHMW-PE grade excels in a variety of industrial manufacturing environments with operating temperatures of up to 135°C (275°F). Components made from TIVAR™ H.O.T-G2 FG UHMW-PE are compliant with EU 10/2011 and FDA 21 CFR § 177.1520 standard, making them the ideal, longer-lasting material for wear parts in dairy, bakery, poultry/meat and other food processing industries where higher temperatures or frequent chemical wash downs shorten part life.

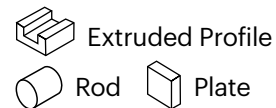
Materialeigenschaften und Vorteile

- Processed from non-fluorinated chemistries and manufactured without intentionally adding per- and polyfluoroalkyl substances (PFAS)
- Maintains performance at temperatures up to 135°C (275°F)
- Excellent wear and chemical resistance
- Compliant with EU 10/2011 and FDA 21 CFR § 177.1520

Technical Datasheet 



Available Geometries



Available Colors

White, Blue



TIVAR™ HPV UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ HPV UHMW-PE is an FDA compliant bearing grade with a built-in dry lubricant that reduces the coefficient of friction of finished components by up to 80%. The superior sliding performance of TIVAR™ HPV UHMW-PE shapes make this material a favored solution for chain guides, sliding strips, rollers, single and multiple corner wear bends and straight guides, helping to improve the sliding behavior of these parts at key touch points in conveyor systems. Such improvements are vital in high-precision applications, as longer productive cycles between maintenance and shorter downtimes allow these systems to run smoothly with less interruption.

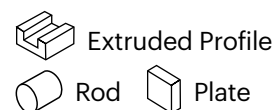
Material Properties and Benefits

- Internal dry lubricant
- Reduces coefficient of friction (COF) in finished components by up to 80%
- Superior sliding performance and high limiting pressure velocity
- Reduces maintenance and downtime in high-precision applications

Technical Datasheet 



Available Geometries



Available Colors

Blue



TIVAR™ HPV FG UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ HPV FG UHMW-PE (Food Grade) is compliant with food regulations EU 10/2011 and FDA 21 CFR § 177.1520. This bearing grade material has a built in dry lubricant that reduces the coefficient of friction in finished components by as much as 80%. Its superior sliding performance makes TIVAR™ HPV FG UHMW-PE a favored solution for chain guides, sliding strips, rollers, single and multiple corner wear bends and straight guides and improve the sliding behavior of these parts at key touch points in conveyor systems. For high-precision applications, this is vital as longer productive cycles between maintenance and shorter downtimes allow these systems to run smoothly with less interruption.

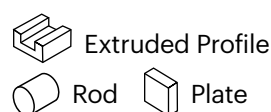
Material Properties and Benefits

- EU 10/2011 and FDA 21 CFR § 177.1520 compliance
- Self-lubricating
- Coefficient of friction (COF) reduction up to 80%
- Superior sliding performance
- Longer wearing in high-precision applications

[Technical Datasheet](#) 



Available Geometries



Available Colors

Blue



TIVAR™ Oil Filled UHMW-PE

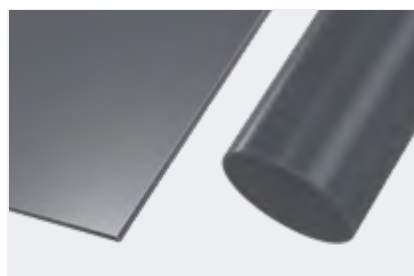
Ultra High Molecular Weight Polyethylene

TIVAR™ Oil Filled UHMW-PE is an ultra high molecular weight polyethylene material that truly lives up to the self-lubricating description. In addition to enhancing the wear resistance of the material, the incorporated and evenly dispersed oil gives this material a considerably lower coefficient of friction than standard UHMW-PE products. It excels in conveying equipment, yielding a significant reduction in the required driving force as well as noise reduction. TIVAR™ Oil Filled UHMW-PE also offers an FDA food contact compliant composition.

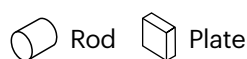
Material Properties and Benefits

- Self-lubricating with incorporated, evenly dispersing oil
- Improved wear resistance
- Considerably lower coefficient of friction (COF) vs. standard UHMW-PE
- Less force needed for conveyance
- Noise abatement

[Technical Datasheet](#) 



Available Geometries



Available Colors

Gray



TIVAR™ Premium UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ Premium UHMW-PE is a cross-linked version of various TIVAR™ UHMW-PE grades. It exhibits excellent abrasion resistance and impact strength, low coefficient of friction, no moisture absorption and corrosion resistance. This material offers superior wear resistance and part life in wet and dry environment and maintains key physical properties to -200°C (-328°F).

Material Properties and Benefits

- Excellent abrasion resistance
- High impact strength
- Low coefficient of friction (COF)
- No moisture absorption
- Corrosion resistance

Technical Datasheet 



Available Geometries



Plate

Available Colors

Black, Gray, White, Red, Reddish-Brown, Natural, Blue, Yellow, Orange



TIVAR™ SuperPlus UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ SuperPlus UHMW-PE is a wear-optimized, partially cross-linked material with extremely high degree of polymerization for use in most demanding applications and environments. When used for drainage elements in paper machinery, this TIVAR™ UHMW-PE grade generally also offers better wear and sliding performance than TIVAR™ Ceram P UHMW-PE. It can perform in high temperature applications to 107°C (225°F) without degradation. SuperPlus's thermal expansion is also up to 25% below other TIVAR™ formulations.

Material Properties and Benefits

- Excellent abrasion resistance
- Very good sliding properties
- Good dimensional stability
- Reduced thermal expansion
- Long life span
- Outstanding chemical and corrosion resistance

Technical Datasheet 



Available Geometries



Extruded Profile



Rod



Plate

Available Colors

Gray



TIVAR™ TECH UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ TECH UHMW-PE is a specialty material with an extremely high degree of polymerization. This grade contains molybdenum disulphide, resulting in improved wear resistance and sliding properties over the standard TIVAR™ 1000 grade of UHMW-PE.

Material Properties and Benefits

- High polymerization
- Contains molybdenum disulphide
- Improved wear and sliding properties over standard TIVAR™ 1000 UHMW-PE

Technical Datasheet 



Available Geometries

 Rod  Plate

Available Colors

Dark Gray



TIVAR™ VMX FG UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ VMX FG UHMW-PE (Food Grade) is an EU 10/2011 and FDA 21 CFR § 177.1520 compliant material containing a metal detectable additive. The material has been specifically tailored for use in the food processing and packaging industries where it can easily be traced by different detection systems (visual, metal, X-ray) installed to detect contamination of the foodstuffs. TIVAR™ VMX FG presents excellent toughness and impact strength and even improved wear and abrasion resistance compared with TIVAR™ 1000 and therefore make this grade especially suited for wear and friction applications.

Material Properties and Benefits

- EU 10/2011 and FDA 21 CFR § 177.1520 compliant
- Three-way detectability: visual, metal, X-ray
- Excellent toughness and impact strength
- Improved wear and abrasion resistance over standard UHMW-PE

Technical Datasheet 



Available Geometries

 Extruded Profile
 Rod  Plate

Available Colors

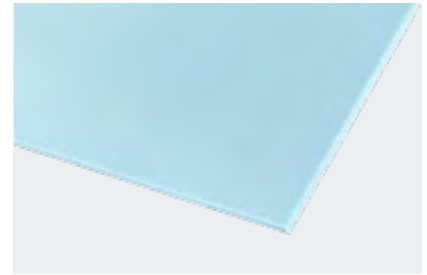
Blue



TIVAR™ Xtended Wear UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ Xtended Wear UHMW-PE is a glass-filled and partially cross-linked material for improved wear resistance. This modified formula retains all the key properties of TIVAR™ UHMW-PE including low friction surface, wear and corrosion resistance and impact strength.



Material Properties and Benefits

- Lowest coefficient of friction (COF)
- Low moisture absorption
- Chemical resistance
- Corrosion resistance
- Good machinability

Technical Datasheet 

Available Geometries

 Plate

Available Colors

Light blue



TIVAR™ 1000 NU UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ 1000 NU UHMW-PE sets the standard for ultra high molecular weight polyethylene shapes, offering a well-balanced property profile that includes a unique combination of wear and corrosion resistance, a low friction surface and excellent impact strength.

TIVAR™ 1000 NU UHMW-PE is PMUC-certified and has passed stringent tests by an EDF-approved laboratory to meet PMUC requirements for use on nuclear sites. Each shipment is accompanied with a PMUC certificate including production batch number. PMUC is the standard for products and materials used in electric, nuclear and thermal power plants.



Material Properties and Benefits

- PMUC-approved for use in nuclear power plants
- Wear and corrosion resistant
- Low friction surface
- Excellent impact strength

Technical Datasheet 

Available Geometries

 Rod  Plate

Available Colors

Natural (white)

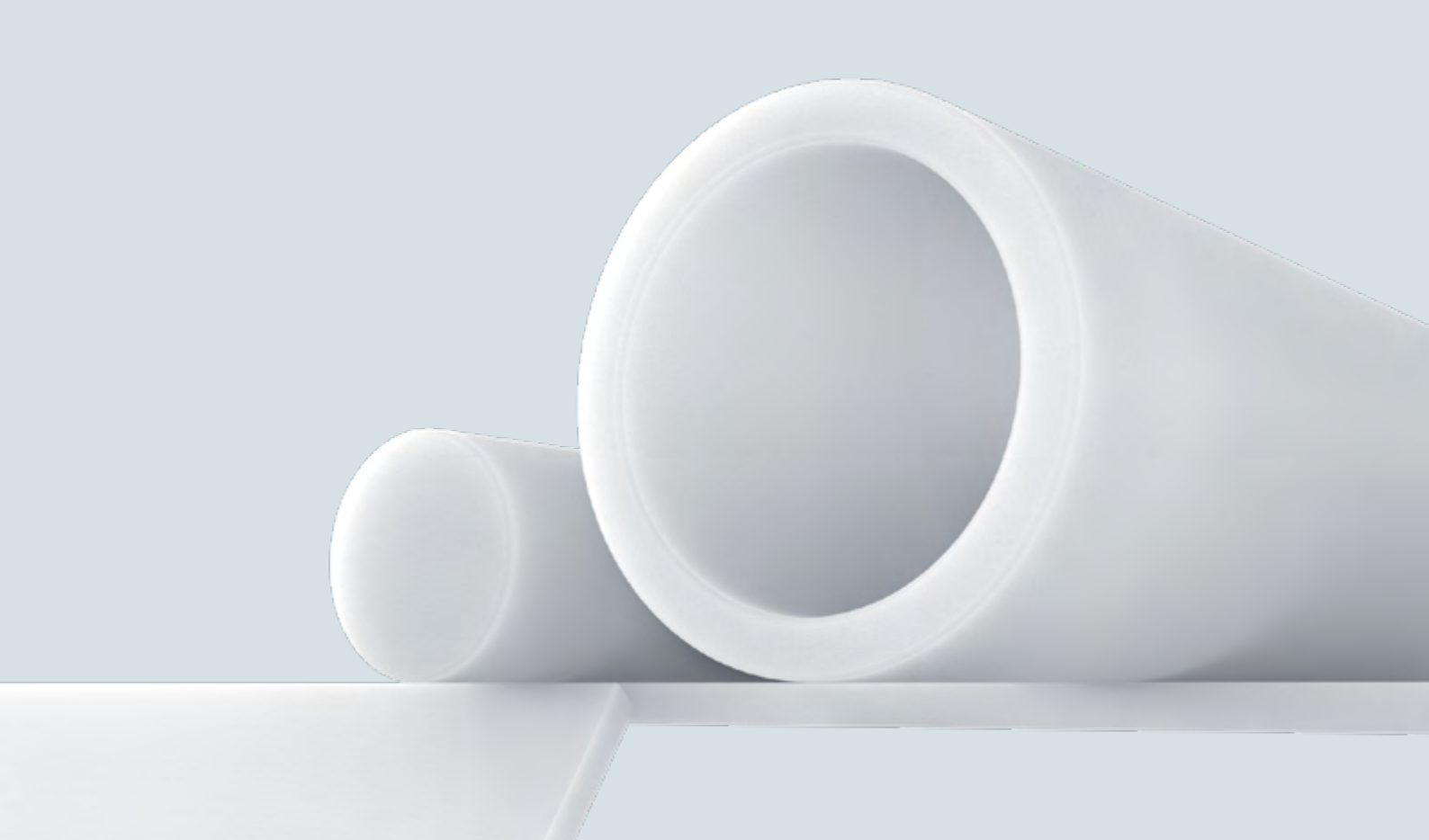




04 | Standard plastics

Semi-finished polyethylene and polypropylene products

These versatile grades of polyethylene and polypropylene materials are available in a range of stock shapes for use in applications with temperature requirements below 65°C (149°F).



Borotron™ (U)HMW-PE

Borotron™ is a family of polyethylene shapes enhanced with varying degrees of elemental boron for use as a medical and industrial shielding material to attenuate and absorb neutron radiation. This easily fabricated polymer material also offers designers greater durability and function over a wider range of temperatures than traditional materials. While essentially any type of PE is suitable for shielding against high energy neutron radiation, borated PE moderates both fast neutrons and lower energy thermal neutrons.

Borotron™ HM015 HMW-PE

Borotron™ HM030 HMW-PE

Borotron™ HM050 HMW-PE

Borotron™ UH015 UHMW-PE

Borotron™ UH030 UHMW-PE

Borotron™ UH050 UHMW-PE

Availability of products, shapes, and colors may differ by region.

Borotron™ HM015 HMW-PE

High Molecular Weight Polyethylene

Borotron™ HM015 shapes are made from high molecular weight polyethylene that is enhanced with 1.5% elemental boron. The boron enhancement makes this grade suitable for use in medical and nuclear shielding applications. The high hydrogen content of HMW-PE allows the material to absorb thermal neutrons, which are then absorbed by the added boron compound. For these reasons, Borotron™ HM015 HMW-PE components are prevalent in nuclear and medical technology.

Material Properties and Benefits

- Enhanced with 1.5% elemental boron
- Very good wear and abrasion resistance
- High impact strength
- Excellent chemical resistance
- Low coefficient of friction (COF)
- Very low water absorption
- Excellent machinability

Technical Datasheet 



Available Geometries



Plate

Available Colors

Natural (white)



Borotron™ HM030 HMW-PE

High Molecular Weight Polyethylene

Borotron™ HM030 HMW-PE (high molecular weight polyethylene) shapes are enhanced with 3% elemental boron, which makes this grade suitable for shielding in nuclear and medical applications. The high hydrogen content of HMW-PE allows the material to absorb thermal neutrons, which are then absorbed by the added boron compound. For these reasons, Borotron™ HM030 HMW-PE components are often favored for use in nuclear waste disposal and detection system, nuclear material storage and transportation, radiation therapy environments and hot cell technology applications.

Material Properties and Benefits

- Enhanced with 3% elemental boron
- Very good wear and abrasion resistance
- High impact strength
- Excellent chemical resistance
- Low coefficient of friction (COF)
- Very low water absorption
- Excellent machinability

Technical Datasheet 



Available Geometries



Plate

Available Colors

Natural (white)



Borotron™ HM050 HMW-PE

High Molecular Weight Polyethylene

Borotron™ HM050 high molecular weight polyethylene shapes are enhanced with 5% elemental boron, making this thermoplastic grade a superior solution for nuclear and medical applications requiring extreme shielding. The high hydrogen content of HMW-PE allows this grade to absorb thermal neutrons, which are then absorbed by the added boron compound. Borotron™ HM050 HMW-PE components are often favored for use in nuclear waste disposal and detection systems, nuclear material storage and transportation, radiation therapy environments and hot cell technology applications within the nuclear and medical technology markets.

Material Properties and Benefits

- Enhanced with 5% elemental boron
- Very good wear and abrasion resistance
- High impact strength
- Excellent chemical resistance
- Low coefficient of friction (COF)
- Very low water absorption
- Excellent machinability

Technical Datasheet 



Available Geometries



Plate

Available Colors

Natural (white)



Borotron™ UH015 UHMW-PE

Ultra High Molecular Weight Polyethylene

Borotron™ UH015 UHMW-PE (ultra high molecular weight polyethylene) shapes are enhanced with 1.5% elemental boron, making this grade a superior solution for in extreme shielding in nuclear and medical applications. The high hydrogen content of UHMW-PE allows the material to absorb thermal neutrons, which are then absorbed by the added boron compound. For these reasons, Borotron™ UH015 UHMW-PE components are prevalent in the nuclear and medical technology industries.

Material Properties and Benefits

- Enhanced with 1.5% elemental boron
- Very good wear and abrasion resistance
- Superior impact strength
- Excellent chemical resistance
- Low coefficient of friction (COF)
- Very low water absorption
- Excellent machinability

Technical Datasheet 



Available Geometries



Plate

Available Colors

Natural (white)



Borotron™ UH030 UHMW-PE

Ultra High Molecular Weight Polyethylene

Borotron™ UH030 UHMW-PE (ultra high molecular weight polyethylene) shapes are enhanced with 3.0% elemental boron for use in extreme shielding in nuclear and medical applications. The high hydrogen content of the polyethylene allows the material to absorb thermal neutrons, which are then absorbed by the added boron compound. For these reasons, Borotron™ UH030 UHMW-PE components are often favored as solutions in applications involving nuclear waste disposal and detection, nuclear material storage and transportation, radiation therapy and hot cell technology.

Material Properties and Benefits

- Enhanced with 3% elemental boron
- Very good wear and abrasion resistance
- Superior impact strength and chemical resistance
- Low coefficient of friction (COF)
- Very low water absorption
- Excellent machinability

Technical Datasheet 



Available Geometries

 Plate

Available Colors

Natural (white)



Borotron™ UH050 UHMW-PE

Ultra High Molecular Weight Polyethylene

Borotron™ UH050 UHMW-PE (ultra high molecular weight polyethylene) shapes are enhanced with 5.0% elemental boron for superior performance in extreme shielding in nuclear and medical applications. The high hydrogen content of the polyethylene allows the material to absorb thermal neutrons, which are then absorbed by the added boron compound. For these reasons, Borotron™ UH050 UHMW-PE components are often favored as solutions in applications involving nuclear waste disposal and detection, nuclear material storage and transportation, radiation therapy and hot cell technology.

Material Properties and Benefits

- Enhanced with 5% elemental boron
- Very good wear and abrasion resistance
- Superior impact strength
- Excellent chemical resistance
- Low coefficient of friction (COF)
- Very low water absorption
- Excellent machinability

Technical Datasheet 



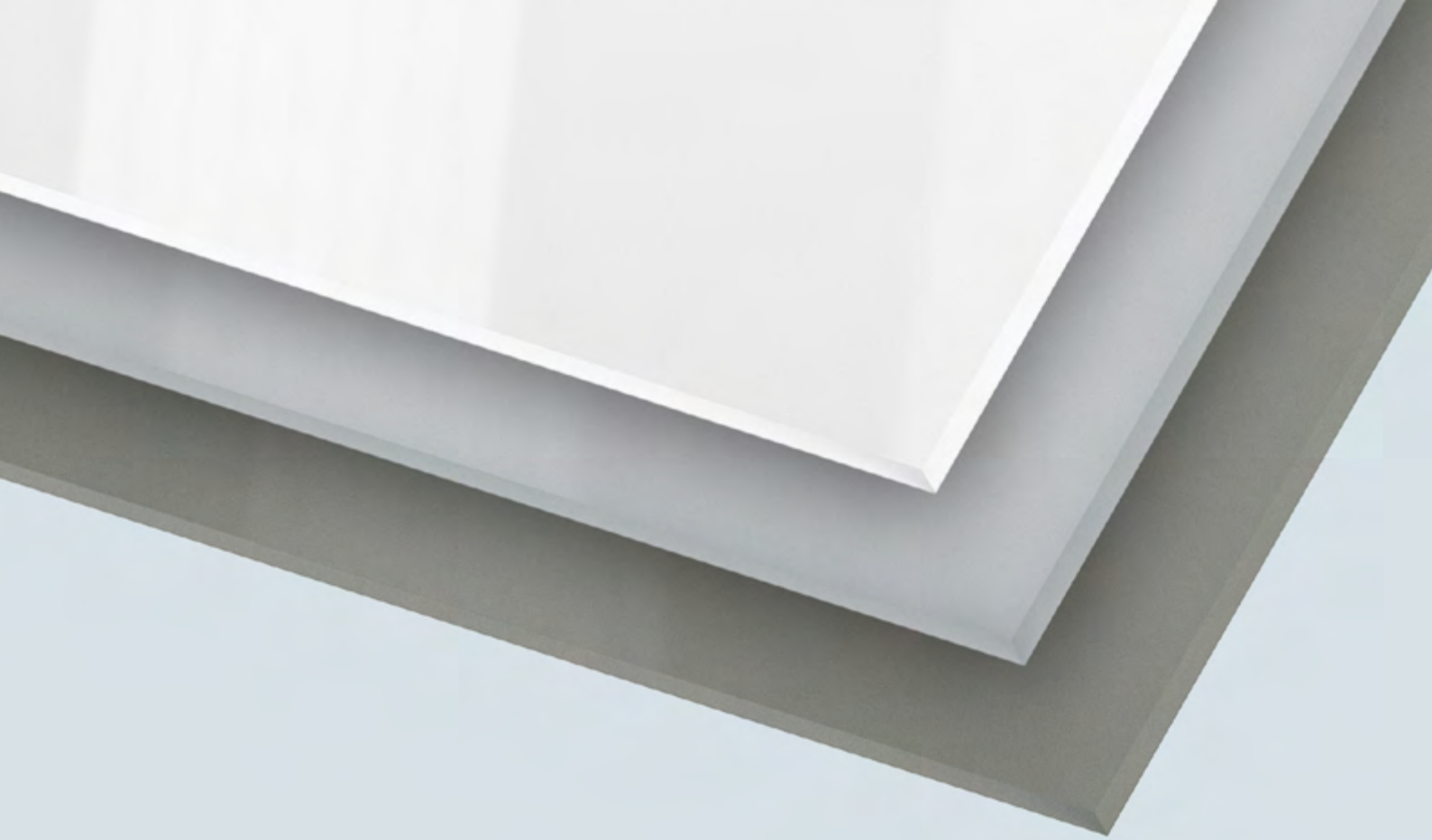
Available Geometries

 Plate

Available Colors

Natural (white)





Proteus™ and Sanalite™ LDPE, HDPE, PP

Proteus™ and Sanalite™ are a family of polyethylene and polypropylene shapes that exhibit a high strength-to-weight ratio, excellent chemical resistance, low moisture absorption, and high performance in thermoforming and corrosive environments. These versatile plastic materials are easy to fabricate and find use a wide variety of applications below 82°C (180°F).

Proteus™ Copolymer PP Natural	Proteus™ LDPE
Proteus™ Homopolymer PP Black	Proteus™ HDPE
Proteus™ Homopolymer PP Natural	Proteus™ HDPE Black
Proteus™ Homopolymer PP White	Sanalite™ HDPE
Proteus™ O & P Natural Homopolymer PP	

Availability of products, shapes, and colors may differ by region.

Proteus™ Copolymer PP Natural

Polypropylene

Proteus™ Copolymer PP Natural shapes offer excellent chemical and corrosion resistance capabilities, improved resistance to stress cracking, ease of fabrication and welding and minimal centerline porosity. Due to these performance properties, Proteus™ Copolymer PP Natural is a favored solution for components in die cutting pads, fire truck water and foam tanks, orthotic and prosthetic devices and plating and anodizing process equipment. This grade is also FDA and NSF compliant.



Material Properties and Benefits

- Excellent chemical and corrosion resistance
- Improved resistance to stress cracking
- Easy to fabricate and weld
- Minimal centerline porosity

Technical Datasheet 

Available Geometries

 Plate

Available Colors

Natural (white)



Proteus™ Homopolymer PP Black

Polypropylene

Proteus™ Homopolymer PP Black shapes are characterized by their high strength-to-weight ratio, excellent chemical and corrosion resistance capabilities, thermoforming performance and zero moisture absorption. This grade is ideal for chemical processing, food processing, storage and medical applications. For their performance and compliance, Proteus™ Homopolymer PP Black components are often favored in orthotic and prosthetic devices, pump components, storage tanks and valve bodies.



Material Properties and Benefits

- High strength-to-weight ratio
- Excellent chemical and corrosion resistance
- Thermoformable
- Zero moisture absorption

Technical Datasheet 

Available Geometries

 Plate

Available Colors

Black



Proteus™ Homopolymer PP Natural

Polypropylene

Proteus™ Homopolymer PP Natural shapes are characterized by their high strength-to-weight ratio, excellent chemical and corrosion resistance capabilities, thermoforming performance and zero moisture absorption. In addition to these key properties, this grade is also FDA and NSF compliant making it ideal for chemical processing, food processing, storage and medical applications. For their performance and compliance, Proteus™ Homopolymer PP Natural components are often favored in orthotic and prosthetic devices, pump components, storage tanks and valve bodies.



Material Properties and Benefits

- High strength-to-weight ratio
- Excellent chemical and corrosion resistance
- Thermoformable
- Zero moisture absorption
- Compliant with FDA, NSF and SSI Standards

Technical Datasheet 

Available Geometries

 Plate

Available Colors

White



Proteus™ Homopolymer PP White

Proteus™ Homopolymer PP White

Proteus™ Homopolymer PP White shapes are characterized by their high strength-to-weight ratio, excellent chemical and corrosion resistance capabilities, thermoforming performance and zero moisture absorption. In addition to these key properties, this grade also displays a minimal centerline porosity composition and is FDA and NSF compliant. As a result, Proteus™ Homopolymer PP White components are ideal for chemical and food processing and storage and medical applications, such as orthotic and prosthetic devices, pump components, storage tanks and valve bodies.



Material Properties and Benefits

- High strength-to-weight ratio
- Excellent chemical & corrosion resistance
- Thermoformable
- Zero moisture absorption
- Minimal centerline porosity
- Compliant with FDA, NSF and SSI Standards

Technical Datasheet 

Available Geometries

 Plate

Available Colors

White



Proteus™ O & P Natural Homopolymer PP

Polypropylene

Proteus™ O & P Natural Homopolymer PP shapes maintain the durability required by the orthotics and prosthetics industry, while also exhibiting top thermoforming performance capabilities. In addition to these key characteristics, Proteus™ O & P Natural Homopolymer PP components do not absorb moisture and are also chemical and corrosion resistant. This grade is prevalent in the medical and thermoforming industries, primarily in orthotic and prosthetic device applications



Material Properties and Benefits

- Thermoforming performance
- Rigid form of polypropylene used where high stiffness is required
- Lot-to-lot consistency and formability
- Chemical and corrosion resistant
- No moisture absorption

[Technical Datasheet](#) 

Available Geometries



Plate

Available Colors

White



Proteus™ LDPE

Low Density Polyethylene

Proteus™ LDPE lightweight shapes possess a great combination of excellent impact resistance, superior chemical and corrosion resistance, easy machinability and cleaning capabilities and zero moisture absorption. As an extremely flexible grade of low-density polyethylene, components made from Proteus™ LDPE are often used in prosthetic device applications that require drape forming or vacuum forming processes. Due to its flexibility and range of other performance properties, Proteus™ LDPE excels in a variety of industrial and medical environments such as thermoformed parts, impact pads, hinges and die pads.



Material Properties and Benefits

- Flexible for drape forming and vacuum forming
- Excellent impact, chemical and corrosion resistance
- Easy to machine and clean
- Zero moisture absorption
- Lightweight

[Technical Datasheet](#) 

Available Geometries



Plate

Available Colors

White



Proteus™ HDPE

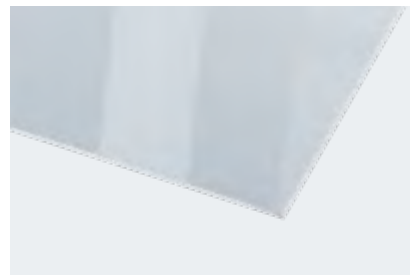
High Density Polyethylene

Proteus™ HDPE shapes are used in a variety of environments requiring excellent impact resistance, superior tensile strength, low moisture absorption, great chemical and corrosion resistance and easy fabrication and welding capabilities. Due to these characteristics and properties, Proteus™ HDPE is often a favored solution for components in chain guides, orthotic and prosthetic devices, tanks, thermoformed material handling devices and water storage applications

Material Properties and Benefits

- Excellent impact resistance
- High tensile strength
- Great chemical and corrosion resistance
- Low moisture absorption
- Easy to fabricate and weld

Technical Datasheet 



Available Geometries



Plate

Available Colors

Black, White



Proteus™ HDPE Black

Chemische Verbindung

Proteus™ HDPE Black shapes are used in a variety of environments requiring excellent impact resistance, superior tensile strength, low moisture absorption, great chemical and corrosion resistance as well as easy fabrication and welding capabilities. Due to these characteristics and properties, Proteus™ HDPE Black are often a favored solution for use in chain guides, orthotic and prosthetic devices, tanks, thermoformed material handling devices and water storage applications.

Material Properties and Benefits

- Excellent impact resistance and tensile strength
- Low moisture absorption
- Great resistance to chemicals & corrosion
- Easy to fabricate and weld

Technical Datasheet 



Available Geometries



Plate

Available Colors

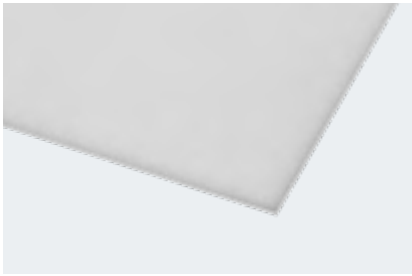
Black



Sanalite™ HDPE

High Density Polyethylene

Sanalite™ HDPE is an odorless and taste-free pebbled finished cutting board material recognized as the industry standard of excellence for use in food preparation and meat/poultry processing. Lightweight, easily cleaned and sanitized and compliant with FDA, USDA, NSF and Canada AG standards, Sanalite™ HDPE excels in a variety of wet applications due to its zero moisture absorption qualities.



Material Properties and Benefits

- Easily cleaned
- Lightweight
- Chemical and corrosion resistant
- No moisture absorption
- Compliant with FDA, USDA, NSF, and Canada AG standards

Available Geometries



Plate

Available Colors

White, Black, Colors



[Technical Datasheet](#) 



RCH™ (U)HMW-PE

RCH™ is a range of high and ultra high molecular weight polyethylene stock shapes used in orthopedic braces and supports. With thermoforming temperatures ranging from 160-180°C (320-356°F), materials in this family are suitable for deep drawing processes requiring malleability, weldability and greater dimensional stability.

RCH™ 1000 UHMW-PE

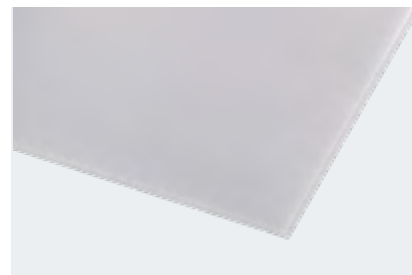
RCH™ 500 HMW-PE

Availability of products, shapes, and colors may differ by region.

RCH™ 1000 UHMW-PE

Ultra High Molecular Weight Polyethylene

RCH™ 1000 Ultra High Molecular Weight UHMW-PE is a highly versatile, ultra-high molecular weight plastic that is ideal for many orthotic applications. It has a forming temperature of +180°C (356°F), is suited for deep-drawing and has an excellent stability. RCH™ 1000 PE-UHMW is used for ankle foot orthoses, body jackets, upper limb orthoses and especially for orthopedic insoles.



Material Properties and Benefits

- Forming temperature of +180°C (356°F)
- Ideal material for applications requiring excellent sliding properties and wear resistance
- Suited for deep-drawing
- Malleable and weldable
- Used for orthotic applications

Technical Datasheet 

Available Geometries



Plate

Available Colors

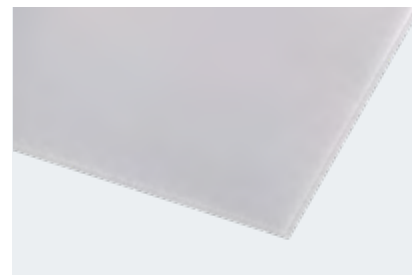
Natural (white), Beige, Red, Blue, Black



RCH™ 500 HMW-PE

High Molecular Weight Polyethylene

RCH™ 500 HMW-PE is a highly versatile, high-molecular weight plastic that is ideal for many orthotic applications. It has a forming temperature between 160-170°C (320-338°F), is suited for deep-drawing and is both malleable and weldable. RCH™ 500 is commonly used for ankle foot orthoses, body jackets and upper limb orthoses.



Material Properties and Benefits

- Forming temperature between 160-170°C (320-338°F)
- Ideal material for applications requiring excellent sliding properties and wear resistance
- Suited for deep-drawing
- Malleable and weldable

Technical Datasheet 

Available Geometries



Plate

Available Colors

Natural (white), Beige, Red, Blue, Black, Batic





PE 500 HMW-PE

A member of the polyolefin family of polymers, polyethylene is one of the most widely-used plastics in the world. A common type within this group of polymers is high-molecular weight polyethylene (HMW-PE, or also PE 500).

In less demanding applications with respect to wear and impact resistance, PE 500 may present an economical alternative to the TIVAR™ grades of ultra-high molecular weight polyethylene.

PE 500 HMW-PE is a versatile polyethylene grade used mainly in the food industry (meat and fish processing), but also in all kinds of mechanical, chemical and electrical applications. PE 500 HMW-PE has high impact strength, excellent chemical resistance, very low water absorption as well as good electrical insulation properties.

PE 500 HMW-PE

PE 500 FG HMW-PE

PE 500 FG colors HMW-PE

PE 500 NU HMW-PE

Availability of products, shapes, and colors may differ by region.

PE 500 HMW-PE

High Molecular Weight Polyethylene

PE 500 HMW-PE is a versatile grade of high molecular weight polyethylene that offers a unique combination of stiffness, toughness, mechanical damping capabilities, great machinability and moderate wear and abrasion resistance. In less demanding applications with respect to wear and impact resistance, PE 500 may present an economical alternative to standard UHMW grades. Due to these benefits and characteristics, PE 500 HMW-PE components are primarily used in the meat and fish processing industry, but can also be found in a variety of mechanical, chemical and electrical applications.

Material Properties and Benefits

- Temperature: -100 to +80°C (-148 to +178°F); +100°C (212°F) short
- High impact strength and resistance to shock
- Excellent resistance to chemicals and low temperatures
- Good electrical insulation properties
- Excellent non-stick properties and low moisture absorption

Technical Datasheet 



Available Geometries



Plate

Available Colors

Natural (white)



PE 500 FG HMW-PE

High Molecular Weight Polyethylene

PE 500 FG HMW-PE (Food Grade) is a versatile high molecular weight polyethylene grade that offers a unique combination of stiffness, toughness, mechanical damping capabilities, great machinability and moderate wear and abrasion resistance. In less demanding applications with respect to wear and impact resistance, PE 500 FG HMW-PE may present an economical alternative to standard UHMW grades. Due to these benefits and characteristics in combination with a EU 10/2011 and FDA 21 CFR § 177.1520 food contact compliancy, PE 500 FG HMW-PE components are primarily used in the meat and fish processing industry, but can also be found in a variety of mechanical, chemical and electrical applications.

Material Properties and Benefits

- Temperature: -100 to +80°C (-148 to +178°F); +100°C (212°F) short-term
- High impact strength and resistance to shock
- Excellent resistance to chemicals and low temperatures
- Good electrical insulation properties
- Excellent non-stick properties and low moisture absorption
- Food approved

Technical Datasheet 



Available Geometries



Plate

Available Colors

Natural (white)



PE 500 FG colors HMW-PE

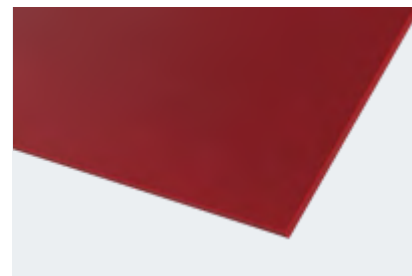
High Molecular Weight Polyethylene

PE 500 FG colors HMW-PE (Food Grade) is a versatile grade that offers a unique combination of stiffness, toughness, mechanical damping capabilities, great machinability and moderate wear and abrasion resistance. In less demanding applications with respect to wear and impact resistance, PE 500 may present an economical alternative to standard UHMW grades. Due to these benefits and characteristics in combination with a EU 10/2011 and FDA 21 CFR § 177.1520 Food Contact compliancy, PE 500 FG colors HMW-PE components are primarily used in the meat and fish processing industry, but can also be found in a variety of mechanical, chemical and electrical applications.

Material Properties and Benefits

- Temperature: -100 to +80°C (-148 to +178°F); +100°C (212°F) short-term
- High impact strength and resistance to shock
- Excellent resistance to chemicals and low temperatures
- Good electrical insulation properties
- Excellent non-stick properties and low moisture absorption
- Food approved and readily available in many colors

Technical Datasheet 



Available Geometries



Plate

Available Colors

Black, Blue, Brown, Green, Grey, Orange, Red, White, Yellow



PE 500 NU HMW-PE

High Molecular Weight Polyethylene

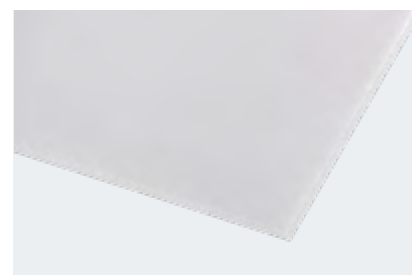
PE 500 NU HMW-PE is a versatile grade of high molecular weight polyethylene that offers a unique combination of stiffness, toughness, mechanical damping capabilities, great machinability and moderate wear and abrasion resistance.

PE 500 NU HMW-PE is PMUC-certified and has passed stringent tests by an EDF-approved laboratory to meet PMUC requirements for use on nuclear sites. Each shipment is accompanied with a PMUC certificate including production batch number. PMUC is the standard for products and materials used in electric, nuclear and thermal power plants.

Material Properties and Benefits

- PMUC-approved for use in nuclear power plants
- Temperature: -100°C up to +80°C (-148°F to 176°F) (+100°C/212°F short term)
- High impact strength and resistance to shock
- Excellent resistance to chemicals and low temperatures
- Good electrical insulation properties
- Excellent non-stick properties and low moisture absorption

Technical Datasheet 



Available Geometries



Plate

Available Colors

Natural (white)





05 | Sterra™ Thermoplastics with reduced CO₂ impact

All the performance at a fraction of the footprint

Sterra™ engineering plastics with recycled content provide access to a comprehensive selection of circular materials that perform as reliably as their virgin counterparts. Their cradle-to-gate carbon footprint, however, is considerably reduced as shown by LCA data. Environmental datasheets are available on request.

For more information please visit: www.mcam.com/en/products/statera

Acetron™ C Sterra™ POM-C

Copolymer Polyoxymethylene

Acetron™ C Sterra™ POM-C is a general purpose, copolymer acetal grade with recycled contents that is often favored for its porosity-free nature. This recycled POM-C also exhibits low moisture absorption and excellent machinability capabilities, making it a very versatile material that can excel in a multitude of environments.

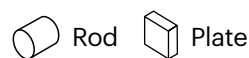
As part of the Sterra™ product portfolio, Acetron™ C Sterra™ POM-C contains recycled POM-C and therefore is associated with a significantly lower carbon footprint compared to similar materials derived from non-recycled feedstocks.



Material Properties and Benefits

- Porosity-free
- Low moisture absorption
- Excellent machinability
- 100% recycled content
- 77% reduced Product Carbon Footprint (for details, please refer to the Environmental Data Sheet provided by MCAM; reduced carbon footprint values are based on comparison with MCAM's manufactured material using 100% virgin resin)
- ISO 14040/44 (ISO, 2006; ISO/TC, 2006) conform LCA study
- System boundary: Cradle to gate
- LCA results/background values are global averages and may be based on a varying number of manufacturing locations, incl. single location.
- A mass balance method according to ISCC PLUS standards is applied; certification is in place
- Mitsubishi Chemical Advanced Materials production sites for the manufacturing of this material are certified according to ISO 9001:2015 and ISO 14001:2015; production sites are using electricity from Renewable Sources (RE)

Available Geometries



Available Colors

Natural (white), Black



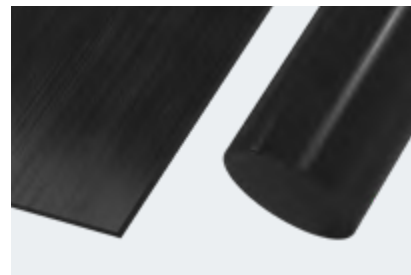
[Technical Datasheet](#) 

Ertalyte™ Sterra™ PET-P

Recycled Polyethylene Terephthalate Polyester

Ertalyte™ Sterra™ PET-P is an unreinforced, semi-crystalline PET-P that is characterized by its excellent wear resistance, low coefficient of friction, high strength and resistance to moderately acidic solutions. Ertalyte™ Sterra™ PET-P is capable of sustaining high loads and retains more of its original strength up to 85°C (180°F) than nylons or acetals. Due to these characteristics, Ertalyte™ Sterra™ PET-P components are a favored solution for bearing and structural applications throughout the pharmaceutical, food processing & packaging and oil & gas industries.

As part of the Sterra™ product portfolio, Ertalyte™ Sterra™ PET-P contains recycled PET-P and therefore is associated with a significantly lower carbon footprint compared to similar materials derived from non-recycled feedstocks.



Material Properties and Benefits

- Excellent wear resistance
- Low coefficient of friction (COF)
- High strength
- Resistance to moderately acidic solutions
- Sustains high loads
- 100% recycled content
- 63% reduced Product Carbon Footprint (for details, please refer to the Environmental Data Sheet provided by MCAM; reduced carbon footprint values are based on comparison with MCAM's manufactured material using 100% virgin resin)
- ISO 14040/44 (ISO, 2006; ISO/TC, 2006) conform LCA study
- System boundary: Cradle to gate
- LCA results/background values are global averages and may be based on a varying number of manufacturing locations, incl. single location.
- A mass balance method according to ISCC PLUS standards is applied; certification is in place
- Mitsubishi Chemical Advanced Materials production sites for the manufacturing of this material are certified according to ISO 9001:2015 and ISO 14001:2015; production sites are using electricity from Renewable Sources (RE)

Available Geometries



Plate

Available Colors

Black



Technical Datasheet 

Ketron™ Sterra™ 1000 PEEK

Recycled poly-ether-ether-ketone

Ketron™ Sterra™ 1000 PEEK is an unfilled, general purpose grade that offers the highest elongation and toughness of all materials in the PEEK family. Ideal for instrument and seal components, where ductility and inertness are critical, Ketron™ Sterra™ 1000 PEEK shapes are known for their ability to fit within a variety of applications and industries.

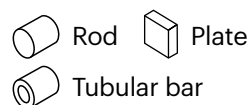
As part of the Sterra™ product portfolio, Ketron™ Sterra™ 1000 PEEK contains recycled content and therefore is associated with a significantly lower carbon footprint compared to similar materials derived from non-recycled feedstocks.



Material Properties and Benefits

- Offers highest elongation and toughness of all materials in the PEEK family
- Ideal for applications where ductility and inertness are critical
- Excellent chemical resistance
- Steam and wear resistant
- 25% recycled content
- 24% reduced Product Carbon Footprint (for details, please refer to the Environmental Data Sheet provided by MCAM; reduced carbon footprint values are based on comparison with MCAM's manufactured material using 100% virgin resin)
- ISO 14040/44 (ISO, 2006; ISO/TC, 2006) conform LCA study
- System boundary: Cradle to gate
- LCA results/background values are global averages and may be based on a varying number of manufacturing locations, incl. single location.
- A mass balance method according to ISCC PLUS standards is applied; certification is in place
- Mitsubishi Chemical Advanced Materials production sites for the manufacturing of this material are certified according to ISO 9001:2015 and ISO 14001:2015; production sites are using electricity from Renewable Sources (RE)

Available Geometries



Available Colors

Natural (beige)



Technical Datasheet 

Ketron™ Sterra™ CA30 PEEK

Recycled poly-ether-ether-ketone

Ketron™ Sterra™ CA30 PEEK is a 30% carbon fiber-reinforced grade that exhibits even higher stiffness, mechanical strength and creep and wear resistance than Ketron™ GF30 PEEK. With a significantly reduced thermal expansion, optimum load-carrying capabilities and high thermal conductivity rates, Ketron™ Sterra™ CA30 PEEK components are often favored for their ability to extend part life and rapidly dissipate heat in bearing applications.

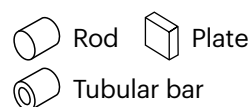
As part of the Sterra™ product portfolio, this material contains recycled content and exhibits a significantly lower carbon footprint compared to similar materials derived from non-recycled feedstocks.



Material Properties and Benefits

- Abrasion resistant
- Outstanding chemical and wear resistance
- Reduced thermal expansion
- Ability to extend part life and rapidly dissipate heat
- Optimum load-carrying capabilities
- 70% recycled content
- 38% reduced Product Carbon Footprint (for details, please refer to the Environmental Data Sheet provided by MCAM; reduced carbon footprint values are based on comparison with MCAM's manufactured material using 100% virgin resin)
- ISO 14040/44 (ISO, 2006; ISO/TC, 2006) conform LCA study
- System boundary: Cradle to gate
- LCA results/background values are global averages and may be based on a varying number of manufacturing locations, incl. single location.
- A mass balance method according to ISCC PLUS standards is applied; certification is in place
- Mitsubishi Chemical Advanced Materials production sites for the manufacturing of this material are certified according to ISO 9001:2015 and ISO 14001:2015; production sites are using electricity from Renewable Sources (RE)

Available Geometries



Available Colors

Black



[Technical Datasheet](#) 

Ketron™ Sterra™ HPV PEEK

Recycled poly-ether-ether-ketone

Ketron™ Sterra™ HPV PEEK shapes are carbon fiber-reinforced, with graphite and PTFE lubricants, giving them the lowest coefficient of friction and the best machinability of all PEEK materials. Due to low wear, low friction and high limiting pressure velocity, this material is often chosen as a solution for high speed service bearings, bushings, insulators, valves and seals.

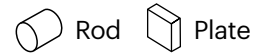
As part of the Sterra™ product portfolio, this material contains recycled content and therefore is associated with a significantly lower carbon footprint compared to similar materials derived from non-recycled feedstocks.



Material Properties and Benefits

- Carbon fiber-reinforced with graphite and PTFE lubricants
- Excellent wear resistance
- High limiting pressure velocity (LPV)
- High mechanical strength and stiffness
- Low coefficient of friction (COF)
- 70% recycled content
- 47% reduced Product Carbon Footprint (for details, please refer to the Environmental Data Sheet provided by MCAM; reduced carbon footprint values are based on comparison with MCAM's manufactured material using 100% virgin resin)
- ISO 14040/44 (ISO, 2006; ISO/TC, 2006) conform LCA study
- System boundary: Cradle to gate
- LCA results/background values are global averages and may be based on a varying number of manufacturing locations, incl. single location.
- A mass balance method according to ISCC PLUS standards is applied; certification is in place
- Mitsubishi Chemical Advanced Materials production sites for the manufacturing of this material are certified according to ISO 9001:2015 and ISO 14001:2015; production sites are using electricity from Renewable Sources (RE)

Available Geometries



Available Colors

Black



Technical Datasheet 

TIVAR™ Sterra™ UHMW-PE

Recycled Ultra High Molecular Weight Polyethylene

TIVAR™ Sterra™ UHMW-PE shapes are produced from re-processed, industrial ultra-high molecular weight polyethylene materials and then re-purposed for use in a variety of industries such as construction and heavy equipment, agriculture and grain handling, bulk material and parcel handling and automotive and transportation.

TIVAR™ Sterra™ UHMW-PE components exhibit excellent abrasion and corrosion resistance, outstanding impact strength, minimal moisture absorption and a low coefficient of friction. TIVAR™ Sterra™ UHMW-PE is a favored solution for wear and outrigger pads, strips, rails, guides, rollers, conveyors, chutes, hoppers, impact plates and asphalt equipment components.

As part of the Sterra™ product portfolio, this material contains recycled content and therefore is associated with a significantly lower carbon footprint compared to similar materials derived from non-recycled feedstocks.

Material Properties and Benefits

- Excellent abrasion and wear resistance
- Outstanding impact strength
- Minimal moisture absorption
- Low coefficient of friction (COF)
- 70% recycled content
- 51% reduced Product Carbon Footprint
- (for details, please refer to the Environmental Data Sheet provided by MCAM; reduced carbon footprint values are based on comparison with MCAM's manufactured material using 100% virgin resin)
- ISO 14040/44 (ISO, 2006; ISO/TC, 2006) conform LCA study
- System boundary: Cradle to gate
- LCA results/background values are global averages and may be based on a varying number of manufacturing locations, incl. single location.
- A mass balance method according to ISCC PLUS standards is applied; certification is in place
- Mitsubishi Chemical Advanced Materials production sites for the manufacturing of this material are certified according to ISO 9001:2015 and ISO 14001:2015; production sites are using electricity from Renewable Sources (RE)



Available Geometries



Available Colors

Green



Technical Datasheet 

TIVAR™ Sterra™ DrySlide UHMW-PE

Recycled Ultra High Molecular Weight Polyethylene

TIVAR™ Sterra™ DrySlide UHMW-PE is an internally lubricated, recycled ultra high molecular weight polyethylene product. Because the lubricant is built into the matrix of the polyethylene with higher molecular weight, TIVAR™ Sterra™ DrySlide UHMW-PE offers a lower coefficient of friction and enhanced wear and abrasion resistance than TIVAR™ 1000 UHMW-PE, making it an excellent material for lining applications. The additives used also make this material static dissipative and considerably improve UV-resistance.

As part of the Sterra™ product portfolio, this material contains recycled content and therefore is associated with a significantly lower carbon footprint compared to similar materials derived from non-recycled feedstocks.

Material Properties and Benefits

- Internally lubricated for low coefficient of friction (COF)
- Enhanced wear, abrasion and UV-resistance
- Static dissipative
- 70% recycled content
- 50% reduced Product Carbon Footprint (for details, please refer to the Environmental Data Sheet provided by MCAM; reduced carbon footprint values are based on comparison with MCAM's manufactured material using 100% virgin resin)
- ISO 14040/44 (ISO, 2006; ISO/TC, 2006) conform LCA study
- System boundary: Cradle to gate
- LCA results/background values are global averages and may be based on a varying number of manufacturing locations, incl. single location.
- A mass balance method according to ISCC PLUS standards is applied; certification is in place
- Mitsubishi Chemical Advanced Materials production sites for the manufacturing of this material are certified according to ISO 9001:2015 and ISO 14001:2015; production sites are using electricity from Renewable Sources (RE)



Available Geometries



Plate

Available Colors

Black



Technical Datasheet 

TIVAR™ Sterra™ ESD UHMW-PE

Recycled Ultra High Molecular Weight Polyethylene

TIVAR™ Sterra™ ESD UHMW-PE electro static dissipative shapes are produced from re-processed, industrial ultra high molecular weight polyethylene materials, and then re-purposed for use in a variety of industries such as agriculture and grain handling, as well as bulk material and parcel handling.

TIVAR™ Sterra™ ESD UHMW-PE components exhibit excellent abrasion and corrosion resistance, outstanding impact strength, minimal moisture absorption and a low coefficient of friction. This grade is often a favored lining material for conveyor, chute and hopper applications, where electrical charge build-ups are prevalent.

As part of the Sterra™ product portfolio, the material contains recycled content and therefore is associated with a significantly lower carbon footprint compared to similar materials derived from non-recycled feedstocks.

Material Properties and Benefits

- Electrostatic dissipative
- Excellent abrasion and wear resistance
- Great impact resistance
- Minimal moisture absorption
- Low coefficient of friction (COF)
- 70% recycled content
- 50% reduced Product Carbon Footprint (for details, please refer to the Environmental Data Sheet provided by MCAM; reduced carbon footprint values are based on comparison with MCAM's manufactured material using 100% virgin resin)
- ISO 14040/44 (ISO, 2006; ISO/TC, 2006) conform LCA study
- System boundary: Cradle to gate
- LCA results/background values are global averages and may be based on a varying number of manufacturing locations, incl. single location.
- A mass balance method according to ISCC PLUS standards is applied; certification is in place
- Mitsubishi Chemical Advanced Materials production sites for the manufacturing of this material are certified according to ISO 9001:2015 and ISO 14001:2015; production sites are using electricity from Renewable Sources (RE)

Technical Datasheet 



Available Geometries



Extruded Profile



Plate

Available Colors

Black





Industry-specific product solutions

Our R&D teams and market segment experts are constantly working on developing special product solutions to always offer modern and future-proof product solutions to our target markets. This results in product groups that are particularly suitable for certain areas of application, have common outstanding product properties or are certified for certain industrial sectors. We present these solutions to you on the following pages.



06 | Food-approved thermoplastics

Thermoplastics stock shapes with approval for applications in the food processing and packaging industry

MCG's broad portfolio of food compliant materials helps minimize risk and improve sustainability, processing safety and throughput.

Development of economically and environmentally optimized manufacturing processes

We deliver end-to-end process engineering support—from conceptual design to final functional components—by leveraging advanced material science, process innovation, and application-specific engineering knowledge. Our focus is on scalable, durable, and cost-efficient manufacturing solutions.

Our engineering thermoplastics portfolio includes chemically stable, regulatory-compliant materials designed to minimize contamination risk and reduce the likelihood of product recalls. These materials

are selected for their performance in regulated environments and their contribution to maintaining operational integrity.

Key performance outcomes include increased equipment uptime, reduced Mean Time Between Repairs (MTBR), and improved production efficiency. Integration of closed-loop material strategies and recyclability into process design supports circular economy objectives and minimizes landfill waste.

Technical capabilities and material features

- **High detectability polymers:** Materials engineered for maximum detectability in quality control systems (e.g., metal and X-ray detection).
- **Near Net Shape fabrication:** Precision manufacturing processes that reduce material waste and minimize secondary machining requirements.
- **Regulatory compliance:** Full conformity with FDA and EU food and pharmaceutical contact regulations.
- **Documentation & Traceability:** Comprehensive material traceability and batch-level certification to support GMP and audit requirements.
- **Polymer-Metal replacement:** High-performance engineered plastics designed to outperform traditional metal parts in wear, corrosion, and weight-sensitive applications.
- **Operational Benefits:**
 - Reduced acoustic emissions
 - Lower tribological wear rates
 - Minimized lubrication requirements
 - Improved energy efficiency in mechanical systems
- **Material reprocessing:** Support for post-use polymer recovery and recycling, contributing to reduced environmental impact and extended material lifecycle.

VMX portfolio - Visual, X-ray, & metal detectable plastics for food processing

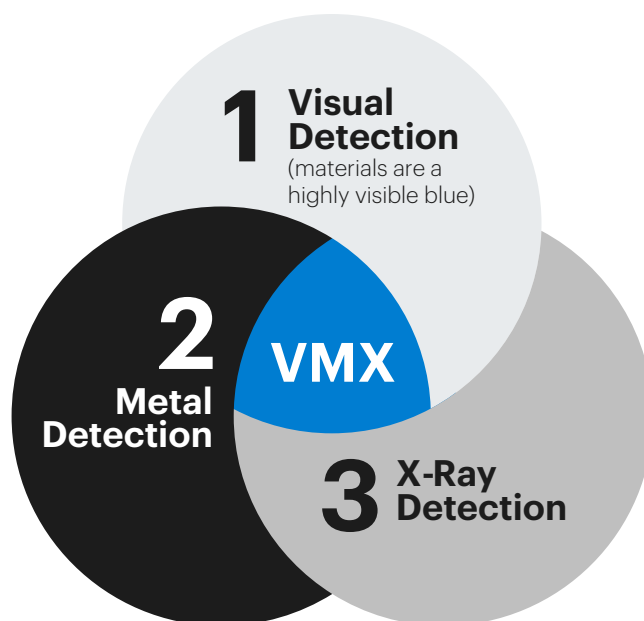


MCG's VMX polymers (Visual, Metal, X-Ray) enhance food processing capabilities by bringing three-way detectability and dual food compliance (EU and FDA). The range includes three unique polymers – each tailored to meet different performance requirements.

VMX benefits

VMX has been developed and designed to support all food types and detection technologies. Leading global OEMs can benefit from the following unbeatable advantages:

- Increased detection via particle detection from 2mm* in Visual (materials are a highly visible blue), Metal and X-Ray.
- Regulatory compliance with FDA and EU 10/2011 Food Grade (all products come with migration test documentation) for use in food processing. Also manufactured within GMP guidelines.
- High-quality material is in stock globally. It is designed by our experts who truly understand the requirements of the food processing industry.
- Resistance to high temperatures and aggressive chemicals which would otherwise corrode metals – ideal for clean in place (CIP) and sanitize in place (SIP).



Acetron™ VMX FG POM-C

Copolymer Polyoxymethylene

Acetron™ VMX FG POM-C (Food Grade) is an EU 10/2011 and compositional FDA 21 CFR § 177.2470 compliant copolymer acetal containing metal and x-ray detectable additives and has bright blue coloring for ease of visual detection. This material has been specifically tailored for use in the food processing and packaging industries where it can easily be traced by different detection systems installed to detect physical contamination in foodstuffs. Additionally, Acetron™ VMX FG POM-C presents good mechanical strength, stiffness and impact strength, making this grade especially well-suited for different applications like gears, scrapers, grippers, etc.

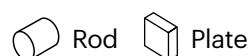
Material Properties and Benefits

- Three-way detectability: visual, metal, x-ray
- EU 10/2011 and compositional FDA 21 CFR § 177.2470 compliant
- Good mechanical strength
- Good mechanical stiffness
- Impact resistant

Technical Datasheet 



Available Geometries



Available Colors

Blue



TIVAR™ VMX FG UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ VMX FG UHMW-PE (Food Grade) is an EU 10/2011 and FDA 21 CFR § 177.1520 compliant material containing a metal detectable additive. The material has been specifically tailored for use in the food processing and packaging industries where it can easily be traced by different detection systems (visual, metal, X-ray) installed to detect contamination of the foodstuffs. TIVAR™ VMX FG presents excellent toughness and impact strength and even improved wear and abrasion resistance compared with TIVAR™ 1000 and therefore make this grade especially suited for wear and friction applications.

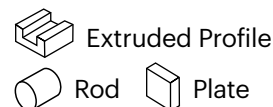
Material Properties and Benefits

- EU 10/2011 and FDA 21 CFR § 177.1520 compliant
- Three-way detectability: visual, metal, X-ray
- Excellent toughness and impact strength
- Improved wear and abrasion resistance over standard UHMW-PE

Technical Datasheet 



Available Geometries



Available Colors

Blue



Ketron™ VMX FG PEEK

Poly-ether-ether-ketone

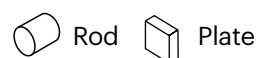
Ketron™ VMX FG PEEK (Food Grade) is an EU 10/2011 and compositional FDA 21 CFR § 177.2415 compliant material that offers extreme dimensional stability and high strength and temperature resistance. Visual, metal and x-ray detectable, Ketron™ VMX FG PEEK shapes can be easily traced by conventional metal and x-ray detection systems, allowing global food processors to safely avoid costly recalls caused by foreign contamination. Due to their superior resistance to wear and corrosion, Ketron™ VMX FG PEEK components are favored for applications in the food processing and packaging industry such as pistons, manifolds, valves and mixing vessels.



Material Properties and Benefits

- Three-way detectability: visual, metal, x-ray
- Suitable for food-approved parts requiring high stiffness without reinforcements
- Can withstand temperatures higher than 130°C (266°F)
- Resistant to steam
- High dimensional stability for high-precision parts
- Enhanced impact-stiffness-ratio
- Highly visible blue color

Available Geometries



Available Colors

Blue



[Technical Datasheet](#) 

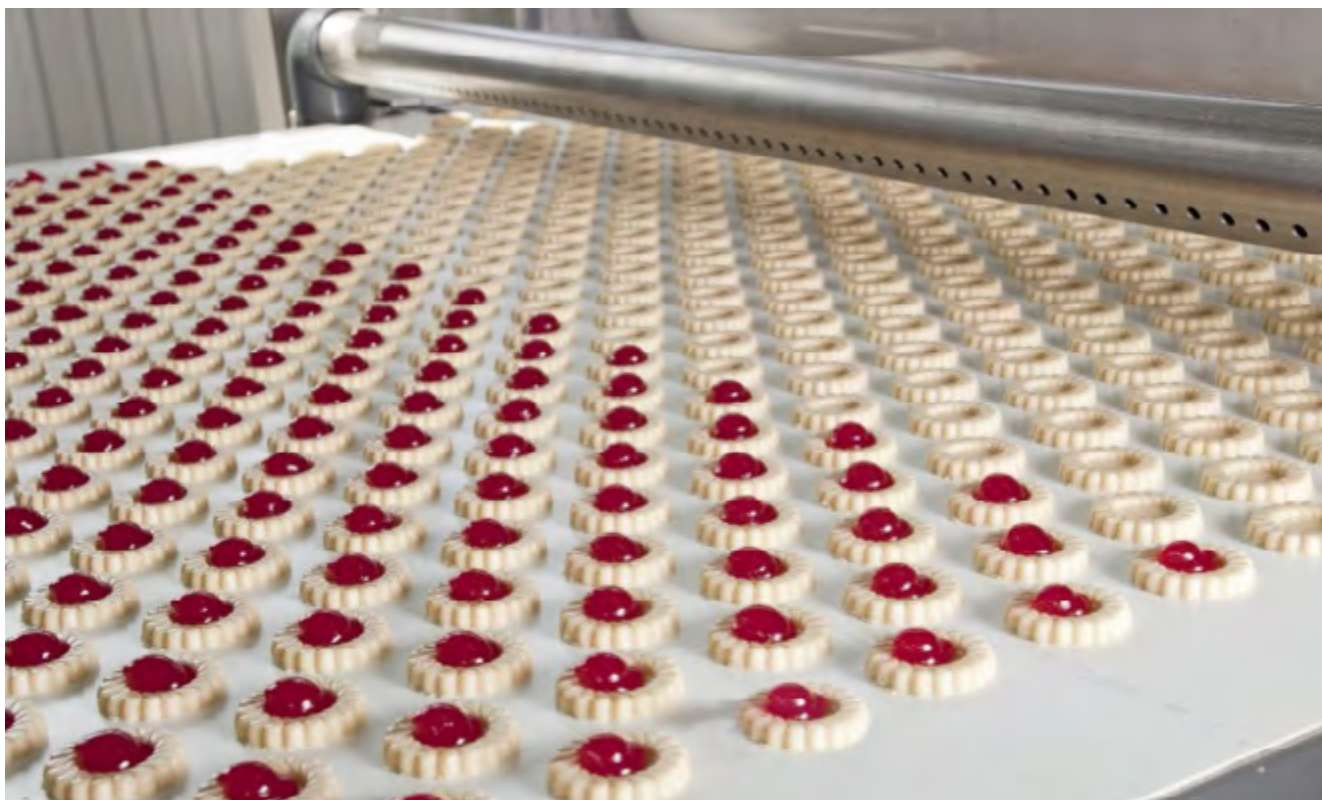
Food Grades portfolio - Certification on highest safety level

Addressing to the very high quality and safety standards in the food industry, the Mitsubishi Chemical Group (MCG) Engineering Shapes & Solutions Division has developed the Food Grade plastics portfolio which complies with the Regulation (EU) 10/2011.

All Food Grade products are processed and handled according to this regulation and to the guidelines of GMP (Good Manufacturing Practice). Every delivery

is accompanied by a Declaration of Compliance with the Order (DCO) - full traceability guaranteed – and a Declaration of Compliance (DoC) according to the Food Regulation (EU) 10/2011.

Customers get a wide selection of products and design possibilities to achieve the best possible cost-performance-ratio. Furthermore, MCG provides help for migration calculation.



Portfolio of thermoplastic materials approved for applications with food contact

STOCK SHAPES	BASE POLYMER	EU(1)	USA (2)	CN (3)	JAPAN (4)
Ketron™ 1000 FG PEEK natural	PEEK	+	+	+	+
Ketron™ 1000 FG PEEK black	PEEK	+	+	+	+
Ketron™ TX FG PEEK blue	PEEK	+	+	NI	+
Ketron™ VMX FG PEEK blue	PEEK	+	+	NI	+
Techtron™ 1000 PPS natural	PPS	NT	+	–	–
Techtron™ HPV FG PPS blue	PPS	+	+	NI	+
Sultron™ FG PPSU black	PPSU	+	+	–	+
Sultron™ PSU natural	PSU	NT	+	–	–
Duratron™ U1000 PEI natural	PEI	NT	+	–	–
Fluorosint™ 207 PTFE white	PTFE	–	+	–	–
Fluorosint™ HPV PTFE tan	PTFE	NT	+	–	–
Ertacetal™ C LQ FG POM-C natural	POM-C	+	+	–	+
Ertalon™ 6 SA FG PA6 natural	PA 6	+	+	+	+
Ertalon™ 66 SA FG PA66 natural	PA 66	+	+	NT	NI
Ertalon™ 6 PLA FG PA6 natural / blue	PA 6	+ / +	+ / +	NT / NT	+ / NI
Ertacetal™ C FG POM-C natural / blue / black	POM-C	+ / + / +	+ / + / +	– / – / –	+ / + / +
Ertacetal™ C POM-C other colors	POM-C	NT	+	–	–
Acetron™ VMX FG POM-C blue	POM-C	+	+	NT	+
Ertalyte™ FG PET natural / black / blue	PET	+ / + / +	+ / + / +	+ / – / –	+ / + / –
Ertalyte™ TX FG PET grey	PET	+	+	–	+
TIVAR™ 1000 FG UHMW-PE natural / blue / green / yellow / black	PE-UHMW	+ / + / + / + / +	+ / + / + / + / –	NT / NT / NT / NT / NT /	+ / + / – / – / +
TIVAR™ 1000 antistatic FG UHMW-PE black	PE-UHMW	+	–	NT	+
TIVAR™ DS FG UHMW-PE yellow	PE-UHMW	+	+	NT	–
TIVAR™ Cestidur FG UHMW-PE grey	PE-UHMW	+	+	NT	+
TIVAR™ H.O.T. FG UHMW-PE white	PE-UHMW	+	+	+	–
TIVAR™ CleanStat FG UHMW-PE black	PE-UHMW	+	+	NT	+
TIVAR™ 1000 ASTL FG UHMW-PE black	PE-UHMW	+	–	NT	+
TIVAR™ EC FG UHMW-PE black	PE-UHMW	+	–	NT	+
TIVAR™ VMX FG UHMW-PE blue	PE-UHMW	+	+	NT	+
TIVAR™ OilFilled UHMW-PE grey	PE-UHMW	NT	+	–	–
TIVAR™ CleanStat UHMW-PE white	PE-UHMW	–	+	–	–
TIVAR™ HPV FG UHMW-PE blue	PE-UHMW	+	+	NT	–
PE 500 FG HMW-PE natural / blue / green / red	PE-HMW	+ / + / + / +	+ / + / + / +	NT / NT / NT / NT	– / + / – / –

- + Complies with the requirements of the regulations.
- Does not comply with the requirements of the regulations.
- NT Has not been tested according to the requirements of the regulations.
- IT Tests according to the requirements of the regulations are on-going.
- NI The information is not available for the raw materials used.

- [1] Food Grade (FG): MCG Engineering Shapes & Solutions (ES&S) Division's European "Food Grade (FG)" designated products comply with the requirements mentioned in the Regulation [EC] No 1935/2004 and the Regulation (EU) 10/2011. Further our "Food Grade" products are manufactured according to Good Manufacturing Practice [GMP] as set out in Regulation [EC] No 2023/2006.
- [2] This column gives the compliance of the raw materials used for the manufacture of the MCG ES&S stock shapes with respect to their composition as set out in the United States of America (FDA) for plastic materials and articles intended to come into contact with foodstuffs.
- [3] This column indicates which products comply to Chinese food contact regulations GB 4806.1, GB 4806.7 and GB 9685.
- [4] This column gives the compliance of the raw materials used for the manufacture of the MCG ES&S stock shapes with respect to their composition as set out in the Japanese Food Sanitation Law.



07 | Life Science Grades

Thermoplastics stock shapes for life science applications

Thermoplastics stock shapes for life science applications

Intended for use in short-term body-contact applications in the medical field as well as bioprocessing applications, LSG materials are pre-assessed for biocompatibility both at the resin and stock shape levels. These plastic shapes meet stringent requirements for material performance, pre-assessment testing, and risk management:

Broad portfolio of materials made from first-class medical resin suppliers

The Life Science Grade stock shapes encompass a comprehensive range of polymer types (HDPE, PP, PC, PSU, PEI, PPSU, and PEEK) and are produced from only the highest quality resins that are pre-assessed for biocompatibility.

Full traceability and quality assurance

Materials undergo additional biocompatibility pre-assessments at the stock shape level, and the production and machining of components is undertaken within ISO 13485 quality management systems.

Expert support throughout

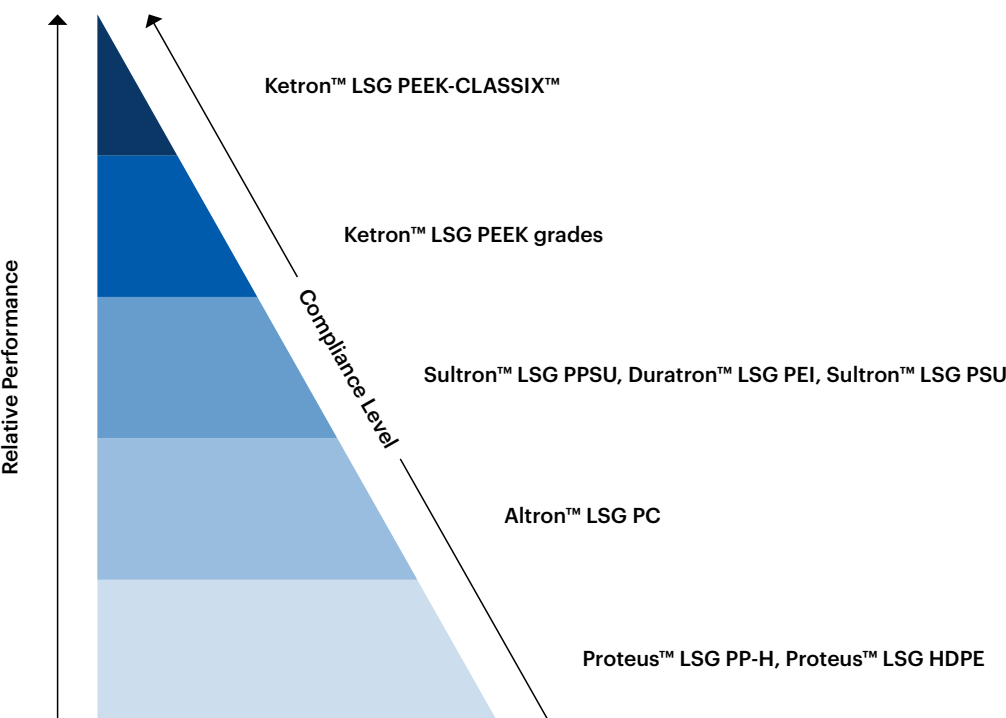
From material selection to compliance topics to processing know-how, we support you in validating your approach every step of the way.

Special properties for highest performance

- Life Science Grades (LSG) are resilient against many chemicals commonly found in healthcare applications.
- The materials were designed to be compatible with modern sterilization techniques such as EtO, autoclave (steam), dry heat, plasma, and irradiation by gamma or X-ray.
- LSG materials exhibit transparency levels between 71% and 81%, making them excellent candidates for components in the fields of medical imaging, radiation therapy, or dosimetry.
- LSG materials exhibit high levels of resistance to gamma radiation. For our LSG materials, we conduct an additional level of pre-assessment at the stock shape level, giving you biological safety data that is one step closer to the final component.

MCG's portfolio of LSG materials includes:

Explore the full Life Science Grades portfolio on www.mcam.com/en/products/lsg.





08 | MediTECH™ Implantable polymers

MediTECH™ implantable polymers for orthopedic medical devices

The market's largest portfolio of pre-assessed, implantable PEEK and UHMW-PE stock shapes

Part of Mitsubishi Chemical Group, the MediTECH™ division provides the market's largest portfolio of pre-assessed, implantable PEEK and UHMW-PE stock shapes. With complete traceability from resin to semi-finished shape, Chirulen™, Extrulen™, and Zeniva™ materials are excellent candidates for the manufacture of long-term implants in the fields of orthopedics and dentistry, such as large joint orthopedics, spinal cages, suture anchors, and cranio-maxillofacial implants.

Fast-track R&D

We partner with you to provide support with research, testing, and validation, helping to shorten your product development cycle and get your orthopedic product to market more quickly.

Superior quality

We apply validated processes from sourcing only the best raw materials to robust inspection procedures.

Global responsiveness

A vertically integrated company with a multi-national footprint, doing business with us gives you access to world-wide coordination and surety of supply.

Special properties for highest performance

- Optimized processing technologies include Compression Molding, Ram Extrusion, and Near Net Shape molding (Direct Compression Molding (DCM), a technology that enables the production of shapes with dimensions close to that of the finished product).
- Both Chirulen™ and Extrulen™ can be enhanced with antioxidants to reduce oxidation potential or to neutralize free radicals generated in irradiation crosslinking.
- MediTECH supplies products across the full span of irradiation levels to meet customer specific preferences. Crosslinking methods are customizable with Gamma, E-Beam, and X-Ray potentials.

Implantable UHMW-PE - Chirulen™ and Extrulen™ UHMW-PE

Chirulen™ and Extrulen™ UHMW-PE products for the manufacture of long-term orthopedic implants, primarily as a dynamic joint liner within hip, knee, and shoulder replacements. These materials exhibit the superior physical and mechanical properties of premium medical grade thermoplastics and are manufactured with superior cleanliness and consistency. Both ram extruded Extrulen™ and compression molded Chirulen™ can be enhanced with antioxidants and crosslinking.

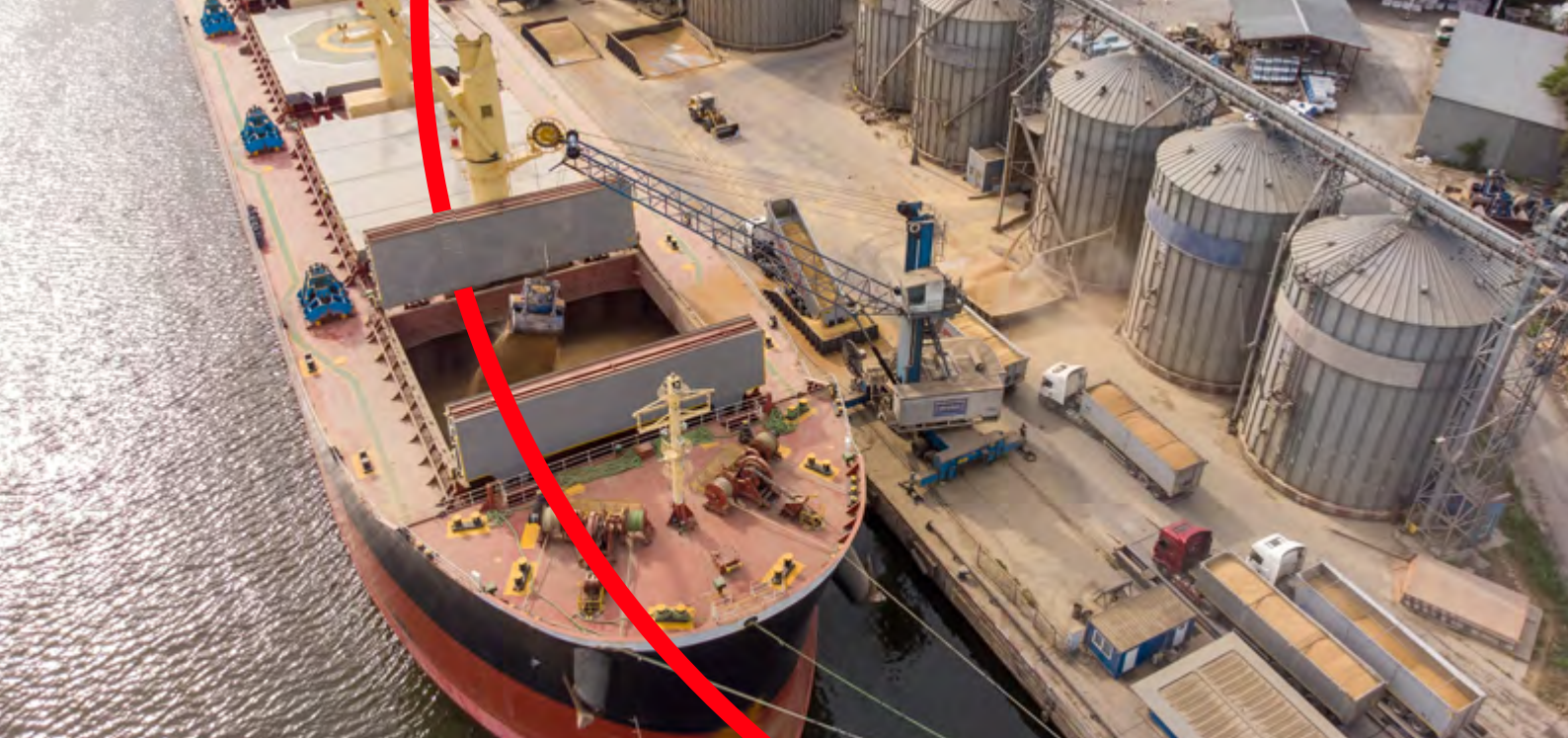


Implantable PEEK – Zeniva™ PEEK

Zeniva™ PEEK is a high-performance biocompatible thermoplastic used in highly loaded static implants. The primary applications for this implantable PEEK material are in medical devices such as spinal fusion cages, suture anchors, craniomaxillofacial reconstruction, and total knee replacements, as well as dental implants such as abutments, crowns, bridges, and frameworks. Unlike implants made of metal alloys, Zeniva™ PEEK implants exhibit a modulus similar to cortical bone – improving the comfort of the patient and extending the lifetime of the implant with greater stability and reduced wear.



Learn more about MediTECH™ Implantable Polymers:
www.mcam.com/en/products/meditech



09 | Bulk Material Handling

Plastic lining materials for bulk material handling

Custom flow systems and lining solutions

In bulk materials handling, linings help reduce friction between the material being transported and the beds, chutes and storage facilities that it comes into contact with. Because of the amount of movement across shared surfaces, a lining material needs to minimize friction and resist damage. From parcel distribution to bulk raw materials handling, our custom lining offering helps enable and improve mass flow. Our advanced polymers are self-lubricating and abrasion resistant, improving performance and reducing blockages and downtime.

Increasing efficiencies in bulk material handling

We seek to add value to your business with custom solutions, design expertise, and advanced lining materials that make efficient mass flow possible.

- Increase rate of flow by preventing blockages, build-ups, and funnel flow.
- Self-lubricating materials promote reliable and steady flow.
- Special formulations available: food contact, abrasion resistance, heat stabilization, anti-static additives, anti-stick properties.

Your full-service linings partner

Mitsubishi Chemical Group is an end-to-end provider of lining materials and flow solutions with over 40 years of experience designing fully engineered solutions for unique applications. From on-site analysis to liner design, material selection, kit pre-fabrication, and turn-key installation, we provide custom solutions and a flexible process – no matter how complex the system – with seamless and efficient implementation in workflow.

- Custom, end-to-end design collaboration
- Global turn-key project management expertise and design support
- Over four decades of flow design and implementation expertise
- Direct relationships facilitate easy recycling, buyback, and takeback.



Parcel Handling

We offer low-friction, electro-static dissipative lining solutions to line chutes for packaging facilities as well as sorting, luggage handling, and more.

TIVAR™ DrySlide UHMW-PE eliminates the use of sprays and waxes, which greatly reduces the time and cost of cleaning contaminated systems. With anti-static and anti-friction additives, TIVAR™ DrySlide promotes flow even in adverse operating conditions, such as humid, wet, or cold weather, as well as handling of challenging objects and packages, such as Styrofoam or boxes covered in packing tape.



TIVAR™ DrySlide UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ DrySlide UHMW-PE is a product with an internal lubricant built into the polymer matrix with higher molecular weight. Because of this lubrication, TIVAR™ DrySlide UHMW-PE offers a lower coefficient of friction and enhanced wear and abrasion resistance than TIVAR™ 1000 UHMW-PE. The additives used also make this material static dissipative and considerably improve UV-resistance.

Material Properties and Benefits

- Internal lubricant built into polymer matrix
- Lower coefficient of friction (COF) than standard UHMW-PE
- Enhanced wear and abrasion resistance
- Static dissipative with some UV-resistance

[Technical Datasheet](#) 



Available Geometries

 Rod  Plate

Available Colors

Black



TIVAR™ Sterra™ DrySlide UHMW-PE

Recycled Ultra High Molecular Weight Polyethylene

TIVAR™ Sterra™ DrySlide UHMW-PE is an internally lubricated, recycled ultra high molecular weight polyethylene product. Because the lubricant is built into the matrix of the polyethylene with higher molecular weight, TIVAR™ Sterra™ DrySlide UHMW-PE offers a lower coefficient of friction and enhanced wear and abrasion resistance than TIVAR™ 1000 UHMW-PE, making it an excellent material for lining applications. The additives used also make this material static dissipative and considerably improve UV-resistance.

As part of the Sterra™ product portfolio, TIVAR™ Sterra™ DrySlide contains recycled UHMW-PE and therefore is associated with a significantly lower carbon footprint compared to similar materials derived from non-recycled feedstocks.

Material Properties and Benefits

- Internally lubricated for low coefficient of friction (COF)
- Enhanced wear, abrasion and UV-resistance
- Static dissipative

[Technical Datasheet](#) 



Available Geometries

 Plate

Available Colors

Black



Transport and storage container lining solutions



Through our System TIVAR™ Engineering (STE) offering, we are the only materials provider to design unique flow systems for custom applications from hoppers to trains.

With TIVAR™ 88 and TIVAR™ 88-2 UHMW-PE engineering materials, we deliver hands-off lining solutions and bring our expertise directly to you on site, where we evaluate your current equipment and requirements to provide custom liners for hoppers, ships, and more. We are committed to reinforcing safety and improving material flow efficiencies in any lining application, including stationary bulk materials storage vessels (hoppers, bins, chutes). Both materials are available in electrostatic dissipative (ESD) formulations.



TIVAR™ Arctic UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ Arctic UHMW-PE is a modified, revolutionary lining material based on an extremely high molecular weight PE matrix. While subzero temperatures can cause bulk materials to freeze to traditional UHMW-PE liners, TIVAR™ Arctic exhibits great release properties even below -15°C (5°F).

Developed especially for use in the coldest regions on earth where temperatures can drop to -50°C (-58°F), its unique and innovative formulation is based on active fillers that makes TIVAR™ Arctic UHMW-PE very effective when used at freezing temperatures. Field tested in Siberia, TIVAR™ Arctic UHMW-PE could give a very short payback time for your investment. The product is Patent Pending.

Material Properties and Benefits

- Great release properties even below -15°C (5°F)
- Extremely high molecular weight PE matrix
- Active fillers prevent bulk materials freezing to liner

Technical Datasheet 



Available Geometries



Plate

Available Colors

Khaki-Grey, Blue



TIVAR™ BurnGuard UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ BurnGuard UHMW-PE is a static dissipative and flame retardant material specifically developed to improve the flammability behavior of unfilled polyethylene grades. This grade in particular possesses a UL94 V-O flammability rating. Due to these characteristics, TIVAR™ BurnGuard excels in applications where key components may be exposed to combustion such as bunker and chute liners, hopper liners, self-unloading ships, railcar liners, dragline buckets, belt scrapers, storage bin liners, vibratory feeder liners and wear strips.

Material Properties and Benefits

- Static dissipative
- Flame retardant
- UL94 V-O flammability rating
- Ideal for components exposed to combustion

Technical Datasheet 



Available Geometries

 Plate

Available Colors

Black-Silver



TIVAR™ Sterra™ ESD UHMW-PE

Recycled Ultra High Molecular Weight Polyethylene

TIVAR™ Sterra™ ESD UHMW-PE electro static dissipative shapes are produced from re-processed, industrial ultra high molecular weight polyethylene materials, and then re-purposed for use in a variety of industries such as agriculture and grain handling, as well as bulk material and parcel handling.

TIVAR™ Sterra™ ESD UHMW-PE components exhibit excellent abrasion and corrosion resistance, outstanding impact strength, minimal moisture absorption and a low coefficient of friction. This grade is often a favored lining material for conveyor, chute and hopper applications, where electrical charge build-ups are prevalent.

As part of the Sterra™ product portfolio, the material contains recycled content and therefore is associated with a significantly lower carbon footprint compared to similar materials derived from non-recycled feedstocks.

Material Properties and Benefits

- Electrostatic dissipative
- Excellent abrasion and wear resistance
- Great impact resistance
- Minimal moisture absorption
- Low coefficient of friction (COF)
- 70% recycled content
- 50% reduced Product Carbon Footprint (for details, please refer to the Environmental Data Sheet provided by MCAM; reduced carbon footprint values are based on comparison with MCAM's manufactured material using 100% virgin resin)
- ISO 14040/44 (ISO, 2006; ISO/TC, 2006) conform LCA study
- System boundary: Cradle to gate
- LCA results/background values are global averages and may be based on a varying number of manufacturing locations, incl. single location.
- A mass balance method according to ISCC PLUS standards is applied; certification is in place
- Mitsubishi Chemical Advanced Materials production sites for the manufacturing of this material are certified according to ISO 9001:2015 and ISO 14001:2015; production sites are using electricity from Renewable Sources (RE)

Technical Datasheet 



Available Geometries

-  Extruded Profile
-  Plate

Available Colors

Black



TIVAR™ 88 UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ 88 UHMW-PE is a premium glass-filled grade that offers low moisture absorption, a low coefficient of friction and excellent chemical resistance. TIVAR™ 88 UHMW-PE components are designed to combat flow stoppage, prevent dead volume and allow bulk materials to flow freely. For these reasons, this grade is considered the material of choice for the lining of storage and transport containers, hoppers, chutes, tubes, bunkers, conveyors, vibratory pans and stand pipes. Furthermore, TIVAR™ 88 UHMW-PE liners are available in kits and can be self-installed or professionally-installed through our extensive network of global SystemTIVAR™ Engineering partners.

Material Properties and Benefits

- Promotes reliable, steady bulk material flow
- Abrasion-, chemical- and corrosion-resistant
- Low coefficient of friction (COF)
- No moisture absorption
- Reduces or eliminates arching, ratholing and erratic flow

[Technical Datasheet](#) 



Available Geometries



Plate

Available Colors

Blue



TIVAR™ 88 ESD UHMW-PE

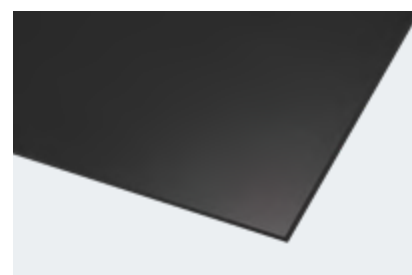
Ultra High Molecular Weight Polyethylene

TIVAR™ 88 ESD UHMW-PE electro static dissipative shapes prevent the build-up of electrical charges in dusty or volatile environments. As a premium glass-filled cross-linked ESD grade, this lining material also exhibits low moisture absorption, the lowest coefficient of friction of all TIVAR™ 88 grades and excellent chemical resistance. TIVAR™ 88 ESD UHMW-PE components are designed to combat flow stoppage, prevent dead volume and allow bulk materials to flow freely. For these reasons, this grade is considered the material of choice for the lining of storage and transport containers, hoppers, chutes, tubes, bunkers, conveyors, vibratory pans and stand pipes. Furthermore, TIVAR™ 88 ESD UHMW-PE liners are available in kits and can be self-installed or professionally installed through our extensive network of global SystemTIVAR™ Engineering partners.

Material Properties and Benefits

- Electrostatic dissipative
- Glass-filled and cross-linked
- Low moisture absorption and friction
- Excellent chemical resistance

[Technical Datasheet](#) 



Available Geometries



Plate

Available Colors

Black



TIVAR™ 88-2 UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ 88-2 UHMW-PE are UV-stabilized shapes that offer the lowest coefficient of friction of all TIVAR™ 88 grades. Additionally, this premium, lubricant-filled lining material offers low moisture absorption and excellent chemical resistance. TIVAR™ 88-2 UHMW-PE components can be fabricated and welded for any application that requires a seamless drop-in liner, a framed-in liner, or a replacement liner. For these reasons, this grade is considered the material of choice for lining storage and transport containers, hoppers, chutes, tubes, bunkers, conveyors, vibratory pans and stand pipes. Furthermore, TIVAR™ 88-2 UHMW-PE liners are available in kits and can be self-installed or professionally installed through our extensive network of global SystemTIVAR™ Engineering partners.

Material Properties and Benefits

- Self-lubricated with lowest coefficient of friction (COF) of all TIVAR™ 88 grades
- Low moisture absorption
- Excellent chemical resistance
- Option to self-install

Technical Datasheet 



Available Geometries



Plate

Available Colors

Blue



TIVAR™ 88-2 ESD UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ 88-2 ESD UHMW-PE electro static dissipative shapes prevent the build-up of electrical charges in dusty or volatile environments. As a premium ESD grade that offers low moisture absorption, the lowest coefficient of friction of all TIVAR™ 88 grades and excellent chemical resistance, TIVAR™ 88-2 ESD UHMW-PE components can be fabricated and welded for any application that requires a seamless drop-in liner, a framed-in liner, or a replacement liner. For these reasons, this UV stabilized grade is considered the material of choice for the lining of storage and transport containers, hoppers, chutes, tubes, bunkers, conveyors, vibratory pans and stand pipes. Furthermore, TIVAR™ 88-2 ESD UHMW-PE liners are available in kits and can be self-installed or professionally-installed through our extensive network of global SystemTIVAR™ Engineering partners.

Material Properties and Benefits

- Electro static dissipative
- Low moisture absorption
- Lowest coefficient of friction (COF) of all TIVAR™ 88 grades
- Excellent chemical resistance

Technical Datasheet 



Available Geometries



Plate

Available Colors

Black, Blue



TIVAR™ H.O.T. UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ H.O.T. UHMW-PE (Higher Operating Temperature) is a premium grade that is formulated to help finished components maintain key performance properties in an extended temperature range. TIVAR™ H.O.T. UHMW-PE excels in a variety of industrial manufacturing environments where temperatures reach up to 135°C (275°F). Furthermore, TIVAR™ H.O.T. UHMW-PE components are compliant with FDA requirements, making this material the ideal, longer life thermoplastic for wear parts in dairy, bakery, poultry/meat and other food processing industries where higher temperatures or frequent chemical wash downs shorten part life.

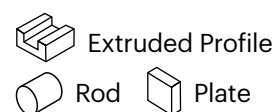
Material Properties and Benefits

- Components maintain performance at temperatures as high as 135°C (275°F).
- Excellent wear resistance at elevated temperatures
- Resistant to chemical cleaning agents
- Compliant with FDA and requirements

Technical Datasheet 



Available Geometries



Available Colors

White, Blue, Red, Yellow



TIVAR™ H.O.T. FG UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ H.O.T. FG UHMW-PE (Food Grade) shapes are formulated to maintain key performance properties at higher operating temperature ranges. This UHMW-PE grade excels in a variety of industrial manufacturing environments with operating temperature of up 135°C (275°F). Components made from TIVAR™ H.O.T. FG UHMW-PE are compliant with EU 10/2011 and FDA 21 CFR § 177.1520, making them the ideal, longer-lasting material for wear parts in dairy, bakery, poultry/meat and other food processing industries where higher temperatures or frequent chemical wash downs shorten part life.

Material Properties and Benefits

- Maintains performance at temperatures up to 135°C (275°F)
- Excellent wear and chemical resistance
- Compliant with EU 10/2011 and FDA 21 CFR § 177.1520 standards

Technical Datasheet 



Available Geometries



Available Colors

White, Blue



Truck Linings

From sticky to abrasive bulk materials, advanced truck bed liners provide easy release and fast unloading due to reduced friction, which also results in longer service life.

The **QuickSilver™** and **QuickSilver™ HD UHMW-PE family** of dump truck bed liner materials is uniquely designed to improve unloading by increasing flow of bulk materials for trucks on- and off-road. By reducing the tipping angle needed to unload, high-performance dump truck bed liners help enable safer operating conditions for both vehicles and drivers, while also increasing off-loading efficiency and reducing floor repair, maintenance, and cleaning.

QuickSilver™ and QuickSilver™ HD UHMW-PE truck liners are successful and high-performing solutions for the transport of hot asphalt.

Learn more about MCG's lining solutions:
www.mcam.com/en/industries/linings



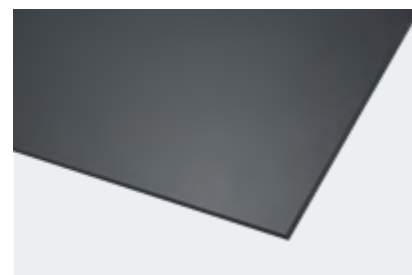
QuickSilver™ UHMW-PE Premium Truck Liner

Ultra High Molecular Weight Polyethylene

QuickSilver™ UHMW-PE seamless dump body liners protect the integrity of original truck beds, by providing a steady release of viscous materials such as asphalt, clay, coal, fly ash, gravel, gypsum, limestone, salt, sand, sludge and topsoil, which ultimately reduces downtime, extends wear life and eliminates the need for costly flow agents.

In addition to these key benefits, this particular lightweight grade also exhibits great impact strength and excellent resistance to abrasion, corrosion and chemicals. Another key benefit that QuickSilver™ UHMW-PE dump body liners provide, is their diverse application capabilities for on-road, off-road and heavy-duty trucks throughout the construction and heavy equipment and mining industries.

Furthermore, QuickSilver™ UHMW-PE liners are available in kits and can be self-installed or professionally-installed through our extensive network of global SystemTIVAR™ Engineering partners.



Material Properties and Benefits

- Extends wear life of truck bed
- Superior impact strength and abrasion resistance
- Improved unloading of viscous materials

Technical Datasheet 

Available Geometries

 Plate

Available Colors

Silver-Grey



QuickSilver™ HD UHMW-PE Premium Truck Liner

Ultra High Molecular Weight Polyethylene

QuickSilver™ HD UHMW-PE (for Heavy Duty applications) seamless dump body liners protect the integrity of original truck beds, by providing a steady release of materials in the most aggressive hauling applications such as fly ash, coal, gravel, limestone, salt, clay, crushed glass, topsoil and fertilizer, which ultimately reduces downtime, extends wear life and eliminates the need for costly flow agents.

In addition to these key benefits, this particular lightweight truck bed liner also exhibits superior impact strength and excellent resistance to abrasion, corrosion and chemicals. Another key benefit that QuickSilver™ HD UHMW-PE dump body liners provide is their diverse application capabilities for on-road, off-road and heavy-duty trucks throughout the construction and heavy equipment and mining industries.

Furthermore, QuickSilver™ HD UHMW-PE liners are available in kits and can be self-installed or professionally-installed through our extensive network of global SystemTIVAR™ Engineering partners.

Material Properties and Benefits

- Extends wear life of truck bed
- Superior impact strength and abrasion resistance
- Improved unloading reduces need for costly flow agents

Technical Datasheet 



Available Geometries



Plate

Available Colors

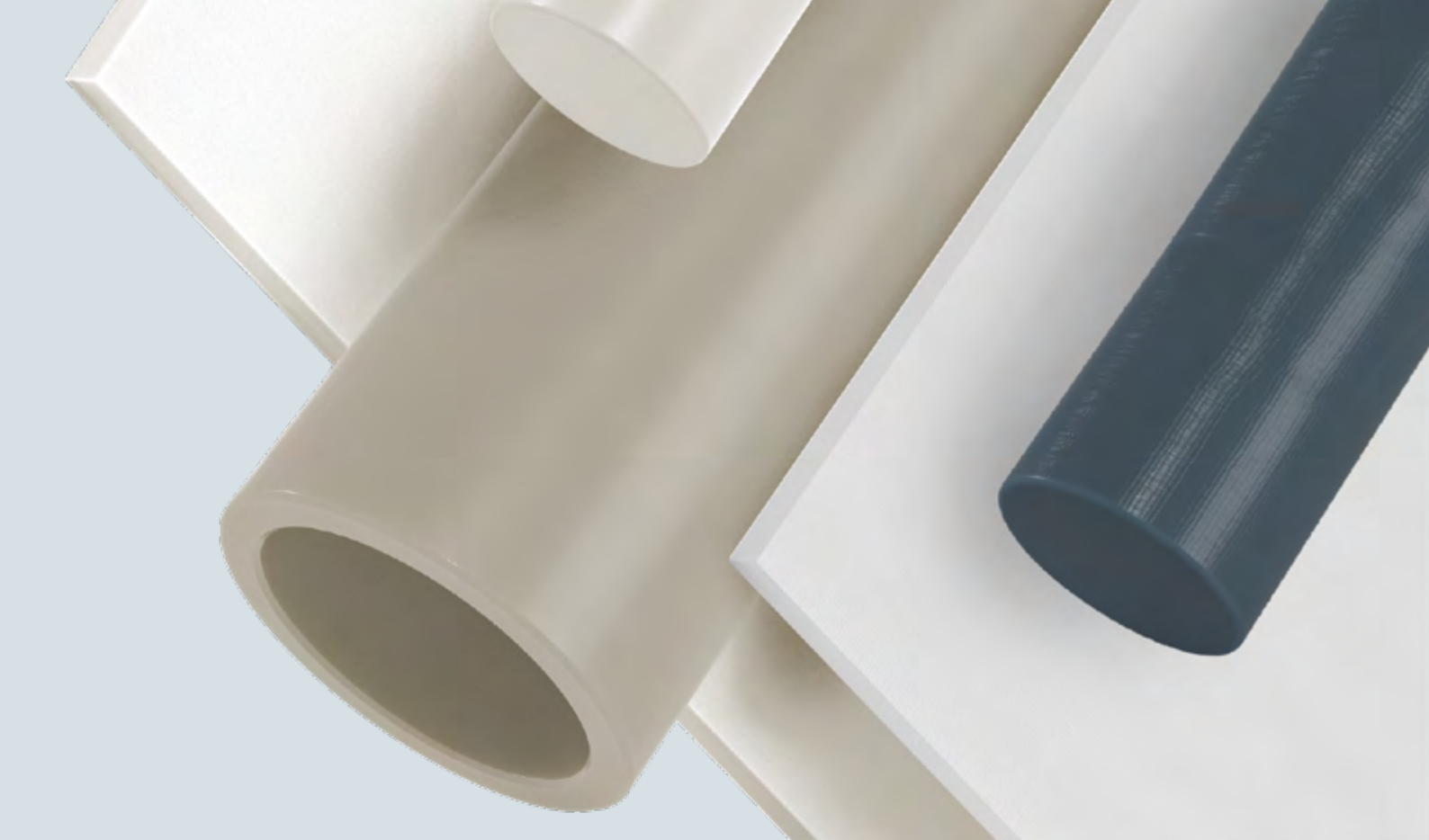
Yellow-Green





10 | PMUC-approved thermoplastics

PMUC-approved, high-performance thermoplastic material solutions for applications in nuclear power plants



PMUC-approved portfolio

MCG offers a range of engineering stock shape products that hold PMUC approval from third party certified laboratories in France. The portfolio meets the standards and requirements for products and materials used in electric, nuclear and thermal power plants.

PMUC stands for Produits et Matériaux Utilisables en Centrales and is a brand of the EDF Group in France, which is the only company authorized to sell PMUC products.

PMUCs are non-metallic products and materials used for various maintenance, control and operational activities in nuclear power plants.

The use of PMUCs is required when there is direct contact with metallic materials or circuits that are classified as safety relevant. PMUC-certified materials are therefore tested for their corrosive effect and certified not to pose a toxicological hazard.

Ketron™ 1000 NU PEEK

Ertalon™ 6 SA NU PA6

Ertalyte™ NU PET-P

TIVAR™ 1000 NU UHMW-PE

Ertacetal™ C NU POM-C

TIVAR™ Cestidur NU UHMW-PE

Ertalon™ 6 PLA NU PA6

PE 500 NU HMW-PE

Availability of products, shapes, and colors may differ by region.

Ketron™ 1000 NU PEEK

Poly-ether-ether-ketone

Ketron™ 1000 NU PEEK is an unfilled polyetheretherketone grade that offers the highest elongation and toughness of all PEEK materials. Ketron™ 1000 NU PEEK is PMUC-certified and has passed stringent tests by an EDF-approved laboratory to meet PMUC requirements for use on nuclear sites. Each shipment is accompanied by a PMUC certificate including production batch number. PMUC is the standard for products and materials used in electric, nuclear and thermal power plants.

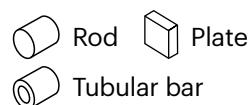


Material Properties and Benefits

- PMUC-approved for use in nuclear power plants
- High strength and stiffness up to 160°C (320°F)
- Excellent chemical resistance
- Highest elongation and toughness of all PEEK grades
- Thermal performance to 248°C (480°F)
- Inherently good wear and abrasion resistance

Technical Datasheet 

Available Geometries



Available Colors

Natural (beige)



Ertalyte™ NU PET-P

Polyethylene Terephthalate

Ertalyte™ NU PET-P is an unreinforced, semi-crystalline grade produced from our proprietary resins and characterized by its excellent wear resistance, low coefficient of friction, high strength and resistance to moderately acidic solutions. This grade is capable of sustaining high loads and retains more of its original strength up to 85°C (180°F) than nylons or acetals.

Ertalyte™ NU PET-P is PMUC-certified and has passed stringent tests by an EDF-approved laboratory to meet PMUC requirements for use on nuclear sites. Each shipment is accompanied with a PMUC certificate including production batch number. PMUC is the standard for products and materials used in electric, nuclear and thermal power plants.

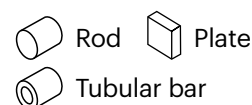


Material Properties and Benefits

- PMUC-approved for use in nuclear power plants
- Excellent wear resistance and low coefficient of friction (COF)
- High strength
- Resistant to moderately acidic solutions
- High load-bearing capacity
- Great strength retention up to 85°C (180°F)

Technical Datasheet 

Available Geometries



Available Colors

Natural (white)



Ertacetal™ C NU POM-C

Copolymer Polyoxymethylene

Ertacetal™ C NU POM-C is a polyoxymethylene, copolymer acetal grade that is often favored for its porosity-free nature. These POM-C shapes also offer low moisture absorption and excellent machinability capabilities.

Ertacetal™ C NU POM-C is PMUC-certified and has passed stringent tests by an EDF-approved laboratory to meet PMUC requirements for use on nuclear sites. Each shipment is accompanied with a PMUC certificate including production batch number. PMUC is the standard for products and materials used in electric, nuclear and thermal power plants.

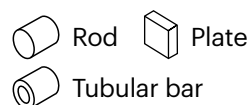
Material Properties and Benefits

- PMUC-approved for use in nuclear power plants
- Porosity-free
- Low moisture absorption
- Excellent machinability

Technical Datasheet 



Available Geometries



Available Colors

Natural (white)



Ertalon™ 6 PLA NU PA6

Polyamide 6

Ertalon™ 6 PLA NU PA6 is an unmodified cast nylon 6 grade and combines high mechanical strength, stiffness and hardness with good resistance to creep, wear, fatigue and heat aging properties. Additionally, this material displays good sliding properties and machinability, as well as electrical insulation and resistance to gamma and x-ray radiation.

Ertalon™ 6 PLA NU PA6 is PMUC-certified and has passed stringent tests by an EDF-approved laboratory to meet PMUC requirements for use on nuclear sites. Each shipment is accompanied by a PMUC certificate including production batch number. PMUC is the standard for products and materials used in electric, nuclear and thermal power plants.

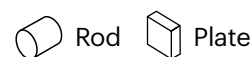
Material Properties and Benefits

- PMUC-approved for use in nuclear power plants
- High mechanical strength, stiffness, hardness and toughness
- Good fatigue resistance
- High mechanical damping ability
- Good sliding properties and excellent wear resistance
- Good electrical insulating properties
- Good resistance to high energy radiation (gamma- and X-rays)
- Good machinability

Technical Datasheet 



Available Geometries



Available Colors

Natural (white)



Ertalon™ 6 SA NU PA6

Polyamide 6

Ertalon™ 6 SA NU PA6 exhibits a great combination of mechanical strength, stiffness, toughness, mechanical damping properties, as well as creep and wear resistance. In addition to these characteristics, this particular grade possesses excellent electrical insulating properties and outstanding chemical resistance capabilities.

Ertalon™ 6 SA NU PA6 is PMUC-certified and has passed stringent tests by an EDF-approved laboratory to meet PMUC requirements for use on nuclear sites. Each shipment is accompanied by a PMUC certificate including production batch number. PMUC is the standard for products and materials used in electric, nuclear and thermal power plants.

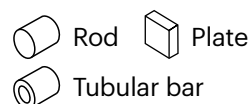
Material Properties and Benefits

- PMUC-approved for use in nuclear power plants
- Great combination of mechanical strength, stiffness, toughness and damping abilities
- Resistance to creep and wear
- Excellent electrical insulation
- Outstanding chemical resistance

Technical Datasheet 



Available Geometries



Available Colors

Natural (white)



TIVAR™ 1000 NU UHMW-PE

Ultra High Molecular Weight Polyethylene

TIVAR™ 1000 NU UHMW-PE sets the standard for ultra high molecular weight polyethylene shapes, offering a well-balanced property profile that includes a unique combination of wear and corrosion resistance, a low friction surface and excellent impact strength.

TIVAR™ 1000 NU UHMW-PE is PMUC-certified and has passed stringent tests by an EDF-approved laboratory to meet PMUC requirements for use on nuclear sites. Each shipment is accompanied with a PMUC certificate including production batch number. PMUC is the standard for products and materials used in electric, nuclear and thermal power plants.

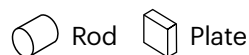
Material Properties and Benefits

- PMUC-approved for use in nuclear power plants
- Wear and corrosion resistant
- Low friction surface
- Self-lubricating
- Excellent impact strength

Technical Datasheet 



Available Geometries



Available Colors

Natural (white)



TIVAR™ Cestidur NU UHMW-PE

Ultra High Molecular Weight Polyethylen

TIVAR™ Cestidur NU UHMW-PE is a modified material with extremely high molecular weight (average 9E6 g/mol). This, in combination with a particular manufacturing process, results in a PE grade with superior wear and abrasion resistance over TIVAR™ 1000 NU UHMW-PE.

TIVAR™ Cestidur NU UHMW-PE is PMUC-certified and has passed stringent tests by an EDF-approved laboratory to meet PMUC requirements for use on nuclear sites. Each shipment is accompanied with a PMUC certificate including production batch number. PMUC is the standard for products and materials used in electric, nuclear and thermal power plants.

Material Properties and Benefits

- PMUC-approved for use in nuclear power plants
- Internal lubrication for greater resistance to abrasion and wear
- Good slip properties
- Good impact resistance, even at temperatures below -200°C (-328°F)
- Easily machinable

Technical Datasheet 



Available Geometries

 Rod  Plate

Available Colors

Gray



PE 500 NU HMW-PE

High Molecular Weight Polyethylene

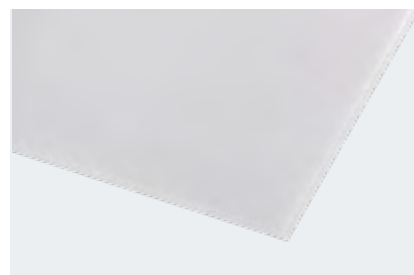
PE 500 NU HMW-PE is a versatile grade of high molecular weight polyethylene that offers a unique combination of stiffness, toughness, mechanical damping capabilities, great machinability and moderate wear and abrasion resistance.

PE 500 NU HMW-PE is PMUC-certified and has passed stringent tests by an EDF-approved laboratory to meet PMUC requirements for use on nuclear sites. Each shipment is accompanied with a PMUC certificate including production batch number. PMUC is the standard for products and materials used in electric, nuclear and thermal power plants.

Material Properties and Benefits

- PMUC-approved for use in nuclear power plants
- Temperature: -100°C up to +80°C (-148°F to 176°F) (+100°C/212°F short term)
- High impact strength and resistance to shock
- Excellent resistance to chemicals and low temperatures
- Good electrical insulation properties
- Excellent non-stick properties and low moisture absorption

Technical Datasheet 



Available Geometries

 Plate

Available Colors

Natural (white)



Mitsubishi Chemical Advanced Materials

Contact.

contact.mcam@mcgc.com

Visit.

www.mcam.com/en/contact

Europe

Mitsubishi Chemical
Advanced Materials NV
Galgenveldstraat 12
8700 Tielt,
Belgium

Tel: +32 51 42 35 11

North America

Mitsubishi Chemical
Advanced Materials Inc.
2120 Fairmont Avenue
PO Box 14235 — Reading,
PA 19612-4235, USA

Tel: +1 610 320 6600

Asia-Pacific

Mitsubishi Chemical
Advanced Materials Korea Ltd.
Sales Office No. 303
The O-Valley, 76, LS-ro, Dongan-gu,
Anyang-si, Gyeonggi-do 14117, Korea

Tel: +82 31 479 6617

www.mcam.com

All statements, technical information, recommendations, and advice are for informational purposes only and are not intended and should not be construed as a warranty of any type or term of sale. The reader, however, is cautioned that Mitsubishi Chemical Advanced Materials does not guarantee the accuracy or completeness of this information and it is the customer's

responsibility to test and assess the suitability of the products of Mitsubishi Chemical Advanced Materials in any given application or for use in a finished device.

Acetron™, Altron™, Borotron™, Duratron™, Ertacetal™, Ertalon™, Ertalyte™, Flextron™, Fluorosint™, Ketron™, Nylatron™, Proteus, RCH™, Sanalite™, Sultron™, QuickSilver™,

Semitron™, Techtron™ and TIVAR™ are registered trademarks of the Mitsubishi Chemical Advanced Materials group.

Design and content created by Mitsubishi Chemical Advanced Materials and protected by copyright law.
Copyright © 2026 by Mitsubishi Chemical Advanced Materials. All rights reserved.