

# E-PLAS ENGINEERING & PERFORMANCE PLASTICS SPECIALISTS



# **E-PLAS**

**ENGINEERING & INDUSTRIAL PLASTICS**  
[www.eplas.com.au](http://www.eplas.com.au)



Quality  
ISO 9001  
SAI GLOBAL



# PRODUCT GUIDE



## E-Plas Premium Engineering, Industrial & High Performance Plastics

An Australian leader since 1981, E-Plas are specialists in engineering, industrial and performance plastics. Merging decades of experience and expertise with adaptability and vision, enabling us to confidently move forward in a landscape of continual change. Evolving and growing our business to meet and exceed customer expectations.

E-Plas' diverse product range meets the unique demands of many varied industries including mining, orthotics, nuclear medicine, ship building, transport, manufacturing, food production, bulk handling and conveying. This broad business base provides E-Plas with a strong and sustainable foundation allowing us to maintain a strong supply chain through our long relationships with some of the world's leading polymer material producers.

Supported by leading global manufacturers, E-Plas also has access to many specialised materials outside our standard range categorised as Special Order items providing solutions to many industry specific challenges.

E-Plas Victoria and E-Plas Manufacturing are based at our flagship premises in Ravenhall with Sales Branches in Queensland, New South Wales, South Australia and Western Australia. Our Branches also provide service to the Northern Territory, ACT and Tasmania and overseas clients in the Asia Pacific region.

E-Plas is certified to Global Standard ISO 9001 2015 (AS NZS ISO 9001 2016) Certificate: QEC 20749

We pride ourselves on bringing you the very best in quality plastics, custom manufacturing and service.





Quality  
ISO 9001

SAIGLOBAL



## E-Plas Manufacturing & Cut to Size Services

E-Plas Manufacturing is your one stop shop for quality custom machined components.

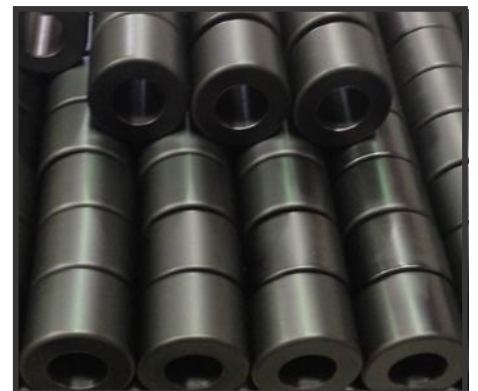
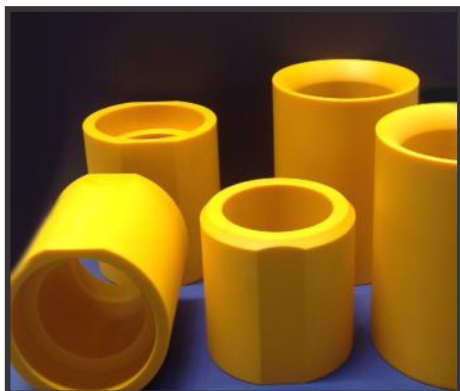
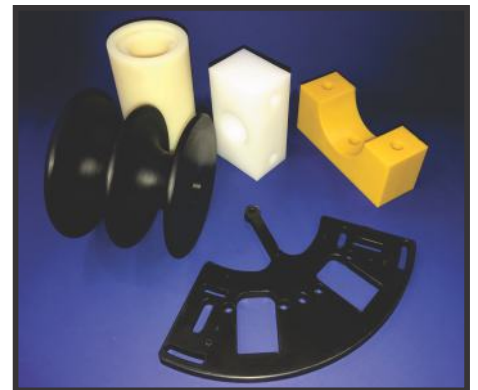
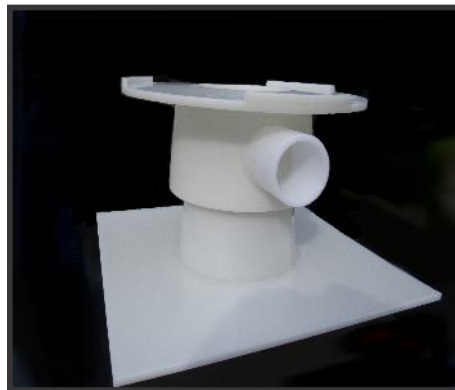
Our Manufacturing team are here to assist you and take your concept from drawing to quality finished product.

Utilising state-of-the-art CAD / CAM (Computer Aided Design / Computer Aided Manufacturing) technology and CNC (Computer Numerically Controlled) machinery, we custom manufacture to your requirements.

Our highly trained engineers precisely machine many varied plastics every day, each with its own unique properties. Our team are expert in the techniques specifically required to achieve excellent dimensional accuracy and tolerance.

E-Plas also provides a full Cut to Size service to our customers.

E-Plas puts decades of engineering plastics expertise behind E-Plas Manufacturing. Supported by our national sales teams, we can assist you in choosing the right material for the highest quality result.



# E-PLAS PRODUCT LIST

E-Plas Product Name	Plastic Type	Key Qualities	Applications
<b>Acetal</b>	Acetal, POM	Hardness, Strength, Toughness Low Coefficient of Friction Good Chemical Resistance Inherent Dimensional Stability	Bearings, Gears & Bushings Electrical Components Pump Components Sliding Elements Wear Plates
<b>Acrylic Cast Sheet &amp; Tube</b>	Cast Acrylic	Extremely Lightweight 17 Times Stronger Than Glass & More Flexible Easy to Handle, Machine & Fabricate Excellent Surface Hardness & Durability Suitable for Food Contact Good Acoustic Properties	Displays, Screens / Partitions Shop Fitting, Shelving, Signage Architectural Applications, Glazing Framing / Model Making Parts for Medical Industry Light Fittings, Roof Lighting
<b>Bakelite</b>	SRBF, SRBP, SRBG Synthetic Resin Bonded Fabric, Paper or Glass	Moulds Extremely Well Good Insulating Properties Excellent Properties of Resistance to: Electricity, Heat & Chemicals Non-Conductive Lightweight	Gears & Bearings Slide Ways, Cams & Piston Rings, Electrical Insulators & Components Slip Ring Bodies, Busbar Supports Terminal Boards Jigs & Fixtures
<b>LDPE</b>	Low Density Polyethylene	Soft Impact resistant High chemical resistance High resistance to stress cracking	Seals & Gaskets Packaging films Plastic bags Consumer goods Orthotics & Prosthetics Toys
<b>HDPE</b>	High Density Polyethylene	More Rigid & Harder than LDPE High Chemical & Stress Resistance Natural HDPE is FDA Approved	Chemical Tanks Cutting Boards, Refrigeration Orthopaedic & Prosthetic Packaging Gaskets Transport
<b>Polycarbonate Sheets</b>	Polycarbonate Polycarb	Light Transmission Of 82% - 86% Excellent Impact Strength & Toughness High Rigidity at Elevated Temperatures Excellent Dimensional Stability Continuous Use Temp. from 100C - 125C Excellent Acoustic Properties Mechanical grade	Vandal Resistant Safety Glazing Electrical Components Machine Guards Safety Barriers Sight Glasses Safety Visors
<b>Polypropylene</b>	Polypropylene Co-polymer PP	High Strength & Weldability Excellent Chemical & Corrosion Resistance Excellent Fatigue Resistance Excellent Impact Resistance Excellent Moisture Resistance Thermo-Formable	Cutting Boards, Bench Tops Fabricated Parts, Living Hinge Parts Orthotic & Prosthetic Devices Plating & Anodizing Process Equipment Tanks, Cooling Towers, Storage Vessels Die Cutting Pads
<b>Polyurethane</b>	Polyurethane PU	High Abrasion, Tear & Corrosion Resistance High Tensile Strength yet Soft & Compressible Resistance to Water, Oil, Grease Mechanical & Electrical Properties High Load Bearing Ability Flexible but Resilient	Seals, Gaskets Rigid insulation panels Elastomeric wheels and tyres Bushings, Rollers Wear guides
<b>PTFE Virgin</b>	Polytetrafluoroethylene	Chemically Inert & Easy To Machine Insoluble in All Known Solvents Below 300°C High Thermal Stability -270° To 260°C Low Coefficient of Friction Nontoxic: EU & FDA Approval - Food Contact Very High Specific Gravity	Laboratory Equipment Chemical Transfer Tubing Mechanical Seals, Ball Valve Seats, Gaskets & Bearings, Valves & Pumps Electrical Insulators, Linings & Coatings Bridge Bearing Pads, Chemical Bellows
<b>PTFE 25% Glass Filled</b>	PTFE + 25% Glass 25% Glass Filled Polytetrafluoroethylene	Higher Compressive Strength & Hardness Improved Wear & Abrasion Resistance Increased Dimensional Stability Improved Thermal Stability Abrasive Against Mating Surfaces vs Unfilled PTFE	Laboratory Parts Shaft Seals & Gaskets, Bridge Bearings Slide Bearings & Bushes, Pipe Supports Piston Rings, Piston Rod Packings Pumps & Valves

# E-PLAS PRODUCT LIST

E-Plas Product Name	Plastic Type	Key Qualities	Applications
<b>Sustadur® PETP</b>	Polyethylene Terephthalate Thermoplastic Polyester	High Mechanical Strength Good Resistance to Creep Excellent Dimensional Stability Abrasion Resistance Excellent Sliding Properties	Journal Bearings Slide Bearings High Pressure Wear Plates Pump Components Insulating Electrical Components
<b>Sustadur® PETP - TF</b>	Polyethylene Terephthalate - Teflon Thermoplastic Polyester	Superior Wear Resistance, Low Friction Additive Enhanced Sliding Properties & Wear Resistance Improved Low Friction, Self-Lubricating High Strength, Stiffness & Dimensional Stability Excellent for Close Tolerance Parts	Food Applications Sliding Elements Gears Bearings Bushes Cams
<b>Sustamid® PA6 G Natural</b>	Nylon High-Molecular, Semi-Crystalline Thermoplastic Form-Polymerised Polyamide 6	Good Sliding Properties High Mechanical Strength Excellent Corrosion & Chemical Resistance Excellent Electrical Insulating Properties EU & FDA Approved - Direct Food Contact Working Temp. Range -40°C to 110°C	Substitute for Bronze, Brass, Aluminium Rollers, Rope Pulleys, Sheaves Trunion Rollers, Wheels, Bushes, Bearings, Gears & Cams Slide Plates, Wear Strips
<b>Sustamid 6G MO</b>	Nylon + Molybdenum Disulphide High-Molecular, Semi-Crystalline Thermoplastic Form-Polymerised Polyamide 6	Good UV Light & Corrosion Resistance Good Bearing & Wear Resistance Good Mechanical Strength & Toughness Excellent Noise Dampening Ability Self-Lubricating	Substitute For Aluminium Or Bronze Journal & Slide Bearings, Bushings, Gears, Crane Sheaves, Cams, Pulleys, Electrical Insulators And Wear Parts.
<b>Sustamid 6G OL</b>	Cast Nylon Oil Filled	Self-Lubricating, Excellent Sliding Properties Extremely High Abrasion Resistance High Mechanical Strength & Impact Strength Good Adhesive Properties & Weldability Excellent Machinability	Sleeve Bearings Slide Bearings Wear Pads
<b>Sustamid® PA6 MOS<sup>2</sup> Black</b>	Nylon Extruded Polyamide	Low Impact Strength & Mechanical Damping High Resistance to Oils, Greases Excellent Sliding Properties Low Deformation Under Load And Compression Good Wear Resistance & Bearing Properties	Gears & Bushes, Friction Bearings High-Pressure Guide Rails Slider Plates Wheels & Rollers Electrical Insulators
<b>Sustamid® PA66 Natural</b>	Nylon Extruded Polyamide	Highest Stiffness, Hardness & Creep Resistance Within Non-Reinforced Polyamides Group Good Long Term Behaviour To Heat Ageing Low Impact Strength & Mechanical Damping High Resistance to Oils, Greases	Friction Bearings GearS & Slider Plates High-Pressure Guide Rails Wheels, Rollers Electrical Insulators Pump Bearings
<b>SustaPEEK®</b>	Polyetheretherketone Semicrystalline Thermoplastic  PEEK (High Performance Material)	Excellent Dimensional Stability Hardly Inflammable & Self-Extinguishing Very High Resistance to High-Energy Radiation Balance of Stiffness, Tensile & Impact Strength	Coil Bobbins, Insulating Bushings, Housings, Process Equipment Milking Machines Pumps, Valves, Filtration Plates, Heat Exchangers Food Processing
<b>Sustarin®</b>	Acetal (Polyacetal)	Hardness, Strength, Toughness Low Coefficient of Friction Good Chemical Resistance Inherent Dimensional Stability	Bearings, Bushings, Gears Electrical Components Pump Components Sliding Elements Wear Plates
<b>Sustarin® C TF</b>	Acetal (Polyacetal) With 18% PTFE Additive	No Stick-Slip Low Friction & Wear, Self-Lubricating High Strength & Stiffness Smooth Operation With Lower Starting Torque Improved Performance, Reliability & Longer Life	Bushes, Bearings, Gears Food Plant Components Slide Bearings Guides

# E-PLAS PRODUCT LIST

E-Plas Product Name	Plastic Type	Key Qualities	Applications
<b>TIVAR</b>	Ultra High Molecular Weight Polyethylene UHMW-PE	High Chemical Resistance Excellent Impact Resistance Does Not Absorb Moisture Good Electrical Properties Toughness, Strength	Milk Jugs, Detergent Bottles, Butter Tubs, Cutting Boards Garbage Containers Low Duty Bearings, Wear Strips Water Pipes, Chemical Tanks
<b>TIVAR® 88</b>	Ultra High Molecular Weight Polyethylene UHMW-PE Top Bulk Handling Liner	Promotes Reliable, Steady Bulk Material Flow Abrasion, Chemical & Corrosion Resistant Reduces or Eliminates Arching & Erratic Flow Low Coefficient of Friction No Moisture Absorption	Diverse Bulk Handling Applications Hopper & Chute, Truck Dump Bodies, Other Heavy Equipment Linings: Materials Ranging from Coal, Mineral Sands, Cement, Zinc, Fly-Ash, Sludge Magnetite, Gypsum, Lime And Grain
<b>TIVAR® Ceram P</b>	Ultra High Molecular Weight Polyethylene UHMW-PE High Load, High Speed Apps.	High Load, High-Speed Abrasive Applications Wear & Corrosion Resistant No Moisture Absorption Self-Lubricating Reduces Noise	Bearing Pads, Bushings, Wear Ring Cams for Fruit Pitting Machines Conveyor Components, Belt Pulleys Telescoping Boom Pads Pump Impellers, Rollers
<b>TIVAR® 1000</b>	Ultra High Molecular Weight Polyethylene UHMW-PE FDA Compliant	Reduces Noise, Self-Lubricating Chemical, Corrosion & Wear Resistant No Moisture Absorption Non-Toxic, Low-Friction Surface FDA Compliant	An Excellent General-Purpose Material Cost-Effective Solution for Food Handling Problems
<b>Tivar® 1000 Anti-Static / ESD</b>	Ultra High Molecular Weight Polyethylene UHMW-PE with Anti-Static Properties	Anti-Static & Self-Lubricating Corrosion Resistant, No Moisture Absorption Protects Against Electrical Charge Build-Up - Excellent In Dry & Dusty Conditions Where Static Electricity Can Cause Problems	Belt Guides Guiding And Conveyor Components Chute Liners, Transfer Tables Trough Liners, Discharge Spout Liners
<b>Tivar® DrySlide (Special Order)</b>	Ultra High Molecular Weight Polyethylene UHMW-PE Anti-static & Self-Lubricating	Anti-Static & UV-Stabilised Excellent In Dry & Dusty Conditions Extremely Low Sliding Friction Coefficient Very Good Wear Properties & Sound Insulation No Discolouring, No Diffusion	Conveyor Systems & Belt Skirting Hopper & Chute Liners, Wearstrips Dead Plates, Diverter Bars Guide Rollers Hitch Plates Liners For Gravity Flow Applications Roller Covers, Transfer Plates
<b>TIVAR® Dockguard</b>	Ultra High Molecular Weight Polyethylene Specialised UHMW-PE Marine & Fender Use	Excellent UV, Wear & Corrosion Resistance Maintains Key Physical Properties to -30° C Excellent Abrasion Resistance No Moisture Absorption Excellent Noise Abatement Excellent Impact Strength	Marine Fender Facings Half-Round Fenders Piling Rub Strips Wear Strips
<b>Tivar® HOT (Special Order)</b>	Ultra High Molecular Weight Polyethylene Specialised UHMW-PE with Higher Operating Temperature	Retained Properties - Extended Temp. Range Contains Oxidation Inhibiting Additives Lasts Up To 10 Times Longer Than Standard Tivar® 1000 In Higher Temperature Environments Low Coefficient Of Friction	Linings: Fly Ash Plants & Drying Ovens J-Leg Wear Strips - Proofing Ovens Chemical, Medical Processing Equip. Rollers & Sprockets - Food Processing Pasteuriser Seals, Grain Drag Flights
<b>Tivar® Rubber- Backed (Special Order)</b>	UHMW-PE + Rubber Backed Composite	All Properties of Tivar® 1000 Apply But With Ability to Absorb High Energy At High Stress Rates	Chutes, Chain Guides, Guide Rails Wearstrips, Slide Bed, Hoppers, Slider & Impact Bars & Linings Where Mechanical Fastening is Not Possible
<b>Quicksilver® Truck Lining Systems</b>	UHMWPE + Continuous Liner Specialised Additives	Eliminates Carry-back Dumps Clean by 3 <sup>rd</sup> Ram Stage Superior, Steady Release of Materials Abrasion, Corrosion & Chemical Resistant Outlasts & Weighs Less than Aluminium / Steel High Impact Strength	Articulated & Rigid Frame Dump Trucks Scrapers, Dozer Blades, Shovels Reclaimer & Dragline Buckets Front-End Loader Buckets, Chutes
<b>PVC</b>	Poly Vinyl Chloride (Industrial Grade) PVC	Thermo-Formable, Bondable / Weldable Excellent Electrical Insulating Properties Very High Chemical Resistance Very Good Moisture Resistance Good Dimensional Stability	Acid & Chemical Tanks, Liners, Fittings Chemical Piping Systems Extraction Systems, Cooling Tower Parts Electrical Insulators, Cable Ducting Fume Cupboards, Pump Components

# PLASTICS THERMAL PROPERTIES

## Division of Thermoplastic Polymers by Structural Type

### Amorphous, Semi-crystalline Plastics & High Temperature Plastics

**Amorphous Plastics** are normally transparent and tend to be sensitive to stress cracking. They are suitable for making precision parts due to their high dimensional stability.

**Semi-crystalline Plastics** are opaque, mostly tough and show good or very good chemical resistance.

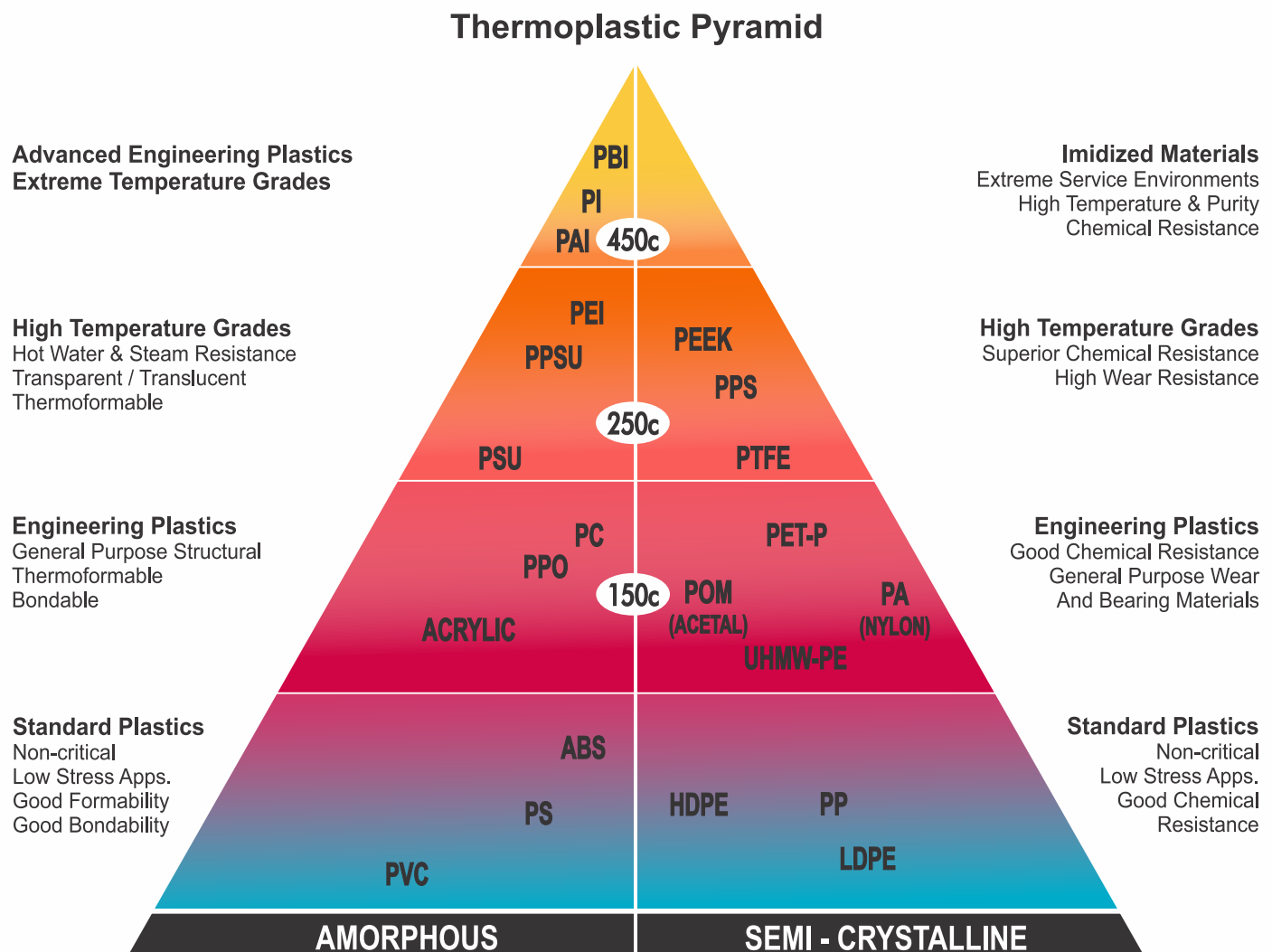
**Plastics can also be differentiated according to their temperature resistance:**

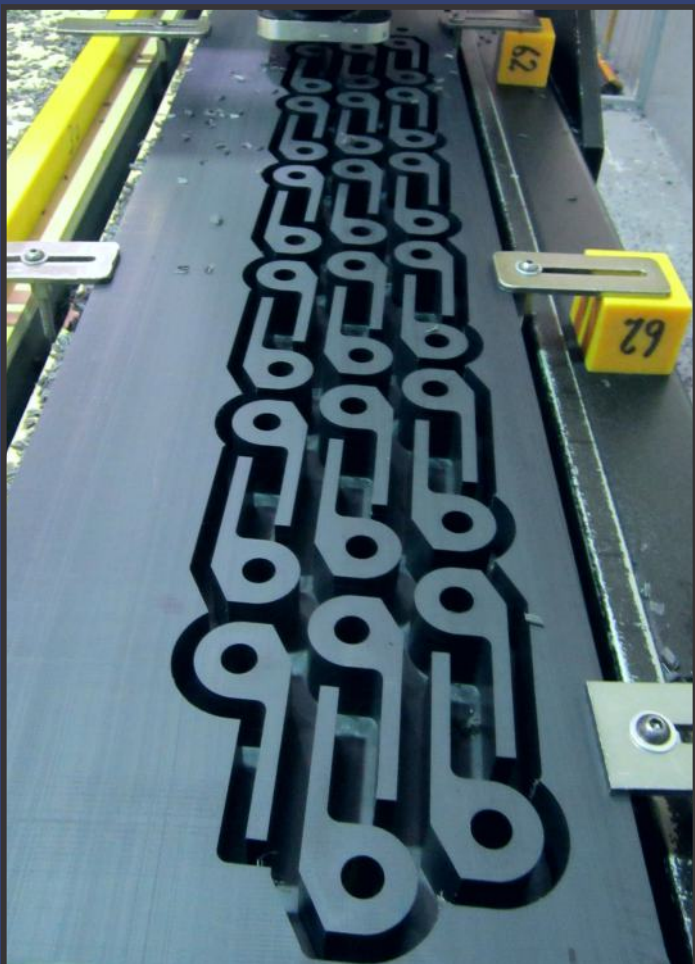
**High-temperature Plastics** have long term service temperatures of above 150 °C and have a high level of thermo-mechanical properties.

Plastics suitable for the highest application temperatures (PI, PBI, PTFE) cannot be processed using melting processes. Production of parts is carried out by sintering.

**Engineering Plastics** can be used permanently at temperatures between 100 °C and 150 °C. They exhibit good mechanical properties and good chemical resistance.

**Standard Plastics** can be used permanently at temperatures below 100 °C.







# TIVAR®

## Premium Specialized UHMW-PE Lining Range

Top Performers in Extreme Bulk Handling Applications & Environments

Product Name	Material Type	Grade
Tivar® 1000	UHMW-PE	Standard
Tivar® 1000 Anti Static / Electro Static Dissipative	UHMW-PE	Standard
Tivar® Uniblend - Anti Static	UHMW-PE	Standard

Product Name	Material Type	Grade
Tivar® 88	UHMW-PE	Bulk Handling
Tivar® HOT Higher Operating Temperature	UHMW-PE	Bulk Handling
Tivar® Rubber-Backed	UHMW-PE	Bulk Handling
Tivar® 88 w. Burngard™	UHMW-PE	Bulk Handling

Product Name	Material Type	Grade
Tivar® Ceram P	UHMW-PE	Premium
Tivar® Dryslide	UHMW-PE	Premium
Tivar® Dockguard	UHMW-PE	Premium
Tivar® PET Protect	UHMW-PE	Premium
Tivar® Special DS	UHMW-PE	Premium
Tivar® 1000 BOR	UHMW-PE	Premium
Tivar® HPV High Pressure Velocity	UHMW-PE	Premium

# TIVAR®

## Specialized UHMW-PE Lining Range - Standard Grades

### Top Performers in Extreme Bulk Handling Applications & Environments

Tivar® materials are UHMW-PE based engineering polymers used to solve problems related to friction, wear, material flow and corrosion.

Produced using state-of-the-art compression moulding technology and ram extrusion. Tivar® specialised UHMW-PE range of high performing plastics provide specific solutions to tough problems in demanding applications.

For more than 80 years, Quadrant EPP have been the world's largest developer and producer of engineering polymers based on UHMW-PE. Modification and innovation of materials based on individual customer requirements and applications are a focus of their business.

#### **Tivar® materials have a solid performance record in numerous industries including:**

Mining, Agriculture, Marine, Filling and Packaging, General Mechanical Engineering, Chemical Industry, Paper Industry, Food Production, Pharmaceutical, Nuclear Industry, Medical and Electrical Applications.

## Tivar® 1000

Tivar® 1000, an engineered UHMW-PE is an excellent general-purpose material. Available as a compression moulded or ram-extruded semi-finished shape in various colours. Unique combination of wear and corrosion resistance, low friction homogenous structure and impact strength. Resistant to chemical attack and moisture absorption, retains key physical properties to -269°C.

Tivar® 1000 (Natural) is a cost-effective solution for food handling problems. Complies with DIN 16972 [PE-UHMW, TG1 & Tg2], meets FDA and USDA guidelines, 3-A Dairy approval for food processing and handling.

#### **Proven Food, Chemical, Water & Bulk Handling Industry Performer**

Food Processing, Dairy Processing, Agricultural Industries, Textiles, Chemical Processing, Pulp and Paper, Mining, Marine, Steel, Water and Sewage Treatment, Bulk Materials Handling

**Available Colours:** White, Yellow, Green, Blue, Black

## Tivar® 1000 Anti Static / Electro Static Dissipative

Tivar® 1000 Anti Static / ESD is an ideal material to use where potentially volatile conditions exist, where dust and static electricity can cause problems such as in Grain Elevators and Munitions Plants, effectively safeguarding against static discharges. Antistatic and electrostatic dissipative, the addition of carbon black makes it most effective in high line speeds and conveyors. Resists heat and protects robotics.

#### **Proven Industry Performer**

Conveying, Agricultural Industries, Robotics, Chemical Processing, Mining, Bulk Handling

**Special Made to Order Item: Minimum 4 sheets per product or thickness run. Lead time 16 wks**

## Tivar® Uniblend - Anti Static

Tivar® Uniblend is a value grade material comprising Tivar® 1000 and reprocessed elements providing good low friction properties and extremely good abrasion resistance. Anti-Static due to a high carbon content. Black only. Similar to Fender grade. Not FDA approved.



# TIVAR®

## Specialized UHMW-PE Lining Range - Bulk Handling Grades

Top Performers in Extreme Bulk Handling Applications & Environments

### Tivar® 88

**Tivar® 88** is the world recognised premium lining product for bulk material handling. Extensive bulk material laboratory and field tests on **Tivar® 88** confirm, time and time again, the outstanding properties of **Tivar® 88**. Exemplified by the low coefficient of friction and excellent wear properties. **Tivar® 88** is noted for its performance in promoting bulk solids flow of cohesive or non-free flowing materials due to its low surface friction. Very high abrasion, impact and chemical resistance. No moisture absorption - Water repellent.

**Tivar® 88** is the perfect solution to bulk handling issues. Enabling reduction or elimination arching, ratholing and erratic material flow challenges in bins, bunkers, hoppers and chutes, railcars, etc.

Although every application is unique, some have specific environmental challenges. Quadrant has developed several proprietary formulation packages for **Tivar® 88** that enhance certain properties without negatively impacting **Tivar® 88's** key properties including anti-static and UV resistant grades. Retains its properties at temperatures of -269C to +80C

#### Proven Top Bulk Handling Industry Performer

Mining: Minerals & Metals, Steel, Cement, Chemical, Grain, Power, Railcars

#### Lining Applications

Chutes, Hoppers, Silos, Storage bins, Surge bins, Drag chain and Screw conveyors, Bunkers, Front end loader buckets, Railcars, Off-road truck beds, Self-unloading bulk carrier ships  
Reclaimer / Dragline buckets, Vibratory feeders / bin dischargers, Slider beds

#### Other Applications

Wearstrips, Belt scrapers, Conveyor skirting, Chain conveyor flights

### Tivar® HOT - Higher Operating Temperature

**Tivar® HOT** is fast becoming the material of choice for high temperature applications.

A modified grade of **Tivar®** with high abrasion resistance and unique formula that inhibits oxidation and allows for higher operating temperatures up to 135°C ensuring material has a longer life span.

Great economical alternative to and often out-performs PTFE and Nylon type 6.

**Tivar® HOT** meets US Food and Drug Admin. Regulations 21CFR177.1520, and 1CFR178.2010 and EU Directive 2002/72/EC for direct food contact applications.

#### Proven Bulk Handling Industry Performer

Baking, Food processing & packaging, Meat & poultry processing, Pet food Mnf., Conveyors

#### Applications

Linings: Flyash plants, Drying ovens, J-Leg wear strips in Proofing ovens, Pasteuriser Seals Rollers & sprockets, Chemical, medical and food processing equipment parts, Grain drag flights





# TIVAR®

## Specialized UHMW-PE Lining Range - Bulk Handling Grades

Top Performers in Extreme Bulk Handling Applications & Environments

### Tivar® Rubber-Backed

**Tivar® Rubber-Backed** sheet is a composite material formed from **Tivar® 1000** and **3mm or 5mm thick rubber backing**. The rubber allows it to be glued to surfaces where metal fasteners cannot be used. Easily bonded to a metal substrate with adhesive.

**Tivar® 1000** properties apply plus the ability to absorb high energy at high stress rates with excellent impact resistance and wear resistance and sliding capabilities. The added rubber backing results in better impact absorption and thermal expansion; minimises substrate corrosion.

Highest impact resistance of any polymer with a coefficient of friction only surpassed by PTFE.

Food handling approved material - DIN 16972, FDA, USDA, 3-A Dairy  
Non-porous: Inhibits growth of fungus and bacteria.

#### Proven Bulk Handling Industry Performer

Coal, Mineral Sands, Cement, Mining, Power-Generation, Food & Agriculture Industries

#### Lining Applications

Dump Trucks/Bodies, Semi-trailers, Haulers & Rail wagons, Slider and Impact bars where metal fastening cannot be applied, Bunkers, Hoppers, Chutes, Trays, Silos, Bins

**Special Made to Order Item: Minimum 4 sheets per product or thickness run. Lead time 16 wks**

### Tivar®88 w. Burnguard™

**Tivar® 88 w. BurnGard™** Promotes Flow, Not Flames. The top choice for Bulk Material Handling applications where the possibility of hot spots or coal smouldering occurs and in stagnant coal environments. Should be used in applications where the liner may be exposed to combustion. **BurnGard™**, is a flame retardant that will not fuel flames. Source of combustion removed,

**Tivar® 88 w. BurnGard™** self-extinguishes with no further impact.

Flame retardant, Antistatic with low coefficient of friction and good sliding properties. Excellent abrasion resistance and impact strength. High chemical and corrosion resistance. UV stabilised.

**Tivar® 88 w. BurnGard™** meets MSHA 1C-112/1 (US Mines Health and Safety Administration) for underground mining.

#### Proven Industry Performer

Coal, Minerals & Metals, Steel, Power, Railcars, Chemical, Grain, Transportation Industry, Vehicle Manufacturing, Building and Construction

#### Lining Applications where Smoulder or Hot Spots may be present

Coal Bins, Chutes, Hoppers, Silos, Storage bins, Surge bins, Slider beds, Railcars,

# TIVAR®

## Specialized UHMW-PE Lining Range - Premium Grades

Top Performers in Extreme Bulk Handling Applications & Environments

### Tivar® Ceram P

Distinctive avocado colour **Tivar® Ceram P** is an extremely wear resistant material with outstanding high abrasion resistance. Incorporated micro glass beads enable **Tivar® Ceram P** to be used in demanding applications with higher mechanical loads: higher loads, higher speeds.

**Tivar® Ceram P** is low maintenance plus long life span. Excels in sliding applications where low friction properties are prerequisite. In high speed applications, capably sustains operating speeds of <700 ms / min.

#### Proven Bulk Handling Industry Performer

Pulp / Paper production, Chemical and Mechanical Eng., Conveying, Filter Industry, Canning  
Power Transmission, Apparatus Eng. Environmental Engineering, Agriculture, Beverage, Bottling,

#### Applications

Paper machines: Suction box covers and foils, Conveyor systems: Corner tracks and guide rails,  
Sliding elements in telescoping booms, Centrifugal pumps: Split rings - Pump bodies,  
Rotary filter systems: Wear plates, Regulating discs, Harvesting equipment: Grain strippers  
Corn forage and Silage trailers: Stalk rails,

### Tivar® Dryslide

**Tivar® DrySlide**, a premium conveyor material, modified with special lubricants that optimise sliding friction properties. Sliding friction coefficient is approximately 35% lower than that of **Tivar® 1000**. **Tivar® DrySlide** has the lowest coefficient of friction of any of the **Tivar®** products.

Low coefficient of friction, excellent wear and anti-static properties make it a top performer in dusty environments. Enhanced surface lubricity protects integrity of packaging and products. Damp boxes or shrink-wrapped parcels won't stick and move freely; no jamming from dirt, grit or static build-up.

#### Proven Bulk Handling Industry Performer

Power, Railcars, Parcel handling, Steel, Cement, Chemical, Grain, Minerals & Metals

#### Lining Applications

Chutes, Hoppers, Silos, Storage bins, Surge bins, Drag chain and Screw conveyors, Bunkers,  
Front end loader buckets, Railcars, Off-road truck beds, Self-unloading bulk carrier ships  
Reclaimer / Dragline buckets, Vibratory feeders / bin dischargers, Slider beds

#### Other Applications

Wear strips, Belt scrapers, Conveyor skirting, Chain conveyor flights

### Tivar® 1000 BOR

**Tivar® 1000 BOR** is a UHMW- PE material modified with boron based additives used as shielding material in the Nuclear Industry but can be also used where neutron shielding is required.

#### Proven Industry Performer

Nuclear Power, Nuclear Medicine

**Special Made to Order Item: Min. 4 sheets per product / thickness run. Lead time 16 wks**





# TIVAR®

## Specialized UHMW-PE Lining Range - Premium Grades

Top Performers in Extreme Bulk Handling Applications & Environments

### Tivar® Dockguard

**Tivar® Dockguard** provides dock fender facing that outlasts other materials such as wood, rubber, polyurethane or High Density Polyethylene. The ideal material developed for marine fender systems, **Tivar® Dockguard** allows vessels to glide easily along its surface without marring hulls.

**Tivar® Dockguard** is eco-friendly, UV resistant, wear and corrosion-resistant and has no moisture absorption. Developed for outdoor exposure and wear conditions, even after 10 years in corrosive salt water, sunlight or high heat or extremely cold weather, **Tivar® Dockguard** fender facings and wear strips are top-notch performers.

Impervious to marine bore worms; also sheds mussels and barnacles. Outwears hardened steel, and cuts hourglass wear onto pilings, withstands salt, fuel and chemical spills.

**Tivar® DockGuard** is available in black and bright safety colours for better low-light visibility in 48" x 120" sheets with gauge sizes ranging from 3/4" to 6" that can be made to order.

#### Proven Industry Performer

Marine/Sea Ports, Transportation/Warehousing

### Tivar® PET Protect

**Tivar® PET-Protect**, also referred to as **Tivar® Surface Protect** is a new innovative grade of **Tivar®** primarily designed to solve problems associated with PET bottle processing.

**Tivar® PET- Protect's** special hybrid matrix construction, allows for smooth line operation without scuffing the PET container whether in wear strip configuration or as a change-part such as a feed screw or star wheel. Existing plastic change-part materials have a tendency to mark or scratch the surface of the container which is an obvious problem for PET processors such as soft drink companies. Protects sophisticated printing and labelling (cosmetics and pharmaceutical).

#### Proven Industry Performer

Bottling, Packaging, Food and Beverage, Cosmetics industry, Pharmaceutical industries

**Special Made to Order Item: Min. 4 sheets per product or thickness run. Lead time 16 wks**

### Tivar® Special DS

**Tivar® Special DS** features even better sliding and wear properties than other **Tivar®** blends and can also be used for processing aggressive, abrasive materials due to special additives and the double sinter press process.

#### Primary Application Area

Paper industry Dewatering Elements operating at <500m/minute.

**Special Made to Order Item: Min. 4 sheets per product or thickness run. Lead time 16 wks**

# TIVAR®

## Specialized UHMW-PE Lining Range - Premium Grades

Top Performers in Extreme Bulk Handling Applications & Environments

### Tivar® HPV High Pressure Velocity

**Tivar® HPV**, a distinctive blue colour, with built in dry lubricant and 80% COF reduction was developed specifically for use in today's most demanding production environments experiencing; high speeds, high temperatures, high friction, high loads and aggressive cleaning agents.

**Tivar® HPV** materials and finished parts offer reduced friction, near zero level "slip stick," and a LPV value 18-35% higher (more slick) than competitive materials.

The superior sliding performance of **Tivar® HPV** reduces friction of components against a mating partner while also better protecting parts from wear. Components made with **Tivar® HPV** show improved sliding behavior and high wear and abrasion resistance at key touch points in conveyor systems.

**Tivar® HPV** is a cost-effective, FDA approved solution for preventing excessive wear and deformation of parts to support the longest possible lifecycle in conveyors, directly contributing to time in use and safety benefits.

#### Proven Bulk Handling Industry Performer

Food and Beverage, Bottling

#### Applications

Chain guides, Sliding strips & guides, Rollers, Single & multiple corner wear bends, Straight guides



# QuickSilver® Truck Lining Systems

## The Perfect Lining Solution. Performance Speaks For Itself

**QuickSilver® is the ultimate state of the art, industrial strength continuous liner.**

**QuickSilver's®** phenomenal integrated release agents within its premium UHMW-PE formula mean it is practically self-cleaning. Super slick, no additional release agents are required. No sticking or carry-back eliminates tip-over risk. Most loads dump clean by 3<sup>rd</sup> ram stage.

Specially developed by Quadrant EPP for the truck industry and the gruelling demands of bulk handling.

**QuickSilver®** ensures your truck is tough, safe and productive.

Reduced turn-around time means more loads per day, all year round and that's a return you can bank.

**QuickSilver®** weighs less than both steel and aluminium and out wears both.

Superior abrasion, impact and corrosion resistance protects integrity of the original equipment, extending the life of your truck body for years.

**QuickSilver®** can be fitted in less than one day and requires no on-going maintenance.

Any configuration from dump trailers and bottom dumps to gravel trains and transfer trailers.

Breathe new life into worn equipment whilst dramatically reducing replacement costs.

### **Proven Industry Performer in Diverse Industries**

Bulk Handling Industry, Tippers, Mining & Minerals Handling / Transport, Agriculture: Grain Handling / Transport

### **Applications**

Tipper Bodies / Dump Trailers, Bottom Dumps, Gravel Trains, Chutes, Transfer Dumps, Hoppers & More

### **QuickSilver® Dumps Clean & Handles Diverse Materials & Climate**

Mineral Ore Concentrate, Clay, Gravel, Coal, Fly-ash, Limestone,

Top-soil, Sand, Phosphate, Salt, Cement, Snow, Sludge,

Hot Mix ( Installed to Manufacturer Guidelines)

### **Properties**

- Designed / Engineered Specifically for Intense Bulk Handling Applications
- Superior Toughness and Durability
- Premium Abrasion Resistance
- Haul and Tip Any Material With Ease
- Super Slick Release - Eliminate Sticking Loads
- No Release Additives. Release Agents in Liner
- Designed to Dump Clean - No Carry-back
- Increased Safety Truck and Driver
- Lighter Than Aluminium and Steel
- Any Climate or Environment
- Fast, Easy Installation - Any Configuration
- Continuous Liner Format
- Huge Maintenance Reduction
- Manufacturer Warranty and Technical Support
- Great Long Term Investment and Savings

### **Supplied as Continuous Liner Full Coils**

Roll length 31m x Width 3.050m Thicknesses 9.5mm and 12.7mm

### **QuickSilver® Warranty**

5 year non prorated Manufacturer Warranty with the best technical support, manufactured by **Quadrant EPP**, The world's largest producer of UHMW-PE.

**E-Plas are the Authorised Australian QuickSilver® Distributors**



# Sustaplast Engineering Plastics

**Rochling Sustaplast** is a world renowned manufacturer of Engineering Plastics in the form of rod, sheet and tube utilising the technology of the world's largest resin makers to provide a wide variety of Thermoplastic stock shapes.

**E-Plas** is proud to be an authorised Australian Distributor for **Rochling Sustaplast** and brings to our market the following **Sustaplast** range of products: **Nylon, Acetal, Polycarbonate, PETP** and **PEEK**.

Product Name	Material Type - Nylons
<b>Sustamid®</b>	6G Monomer Cast Nylons
<b>Sustaglide®</b>	Performance Enhanced Nylon
<b>Sustamid® 6</b>	Extruded Nylon
<b>Sustamid® 66</b>	Extruded Copolymer Nylon
<b>Susta®Vacu</b>	Vacuum Formable Glass Reinforced Nylon

Product Name	Material Type - Acetal
<b>Sustarin®</b>	Acetal (POM)

Product Name	Material Type - Polycarbonate
<b>Sustanat®</b>	Polycarbonate

Product Name	Material Type - PETP
<b>Sustadur®</b>	PETP (Thermoplastic Polyester)

Product Name	Material Type - PEEK
<b>Susta®Peek</b>	PEEK Very High Temperature High Performance - Polyetheretherketone



# Sustaplast Engineering Plastics

## Sustamid® - 6G Monomer Cast Nylons

**Sustamid®** also known as **Polyamide (PA), Nylon** is a partially crystalline thermoplastic and is known as the workhorse of engineering plastics due to its variety of properties.

Because of its good mechanical strength, abrasion resistance, chemical, thermal and low friction properties, it has earned a reputation as an excellent bearing material.

Hardness and strength, toughness and tenacity are the combination that makes **Sustamid® Nylon** so versatile and the solution for many difficult applications.

**Sustamid® Nylon** has evolved over the years and is available in a number of commercial stock shape grades each having specific properties and benefits, examples are type 6, 66, 11, 12 & 46 most of which are copolymer grades although much development has been done in recent years with Type 6 Monomer Cast Caprolactum grades.

### Proven Industry Performer

Mechanical Engineering, Offshore, Electrical, Electronics, Vehicle Construction / Automotive Industries: Cars, Trucks, Forklifts, Conveying, Heavy Crane Industry, Repetition Machining, Heavy Haulage, Dairy Industry, Meat Works, Food Processing, Bottling

### Applications

Sliding Parts, Rollers, Bushes, Bogies, Cable Winches, Lifting Gears, Rope Pulleys, Conveyor Stars, Spiral Conveyors, Insulation bushing, Gears & Sprockets, High speed chain guides that exceed 100 feet per minute, Crane pulleys ( sheaves ), Bearing both in linear and circular

## Sustaglide® - Performance Enhanced Nylon

**Sustaglide®** is a highly modified caprolactum grade, incorporating a lubricating "particulate matrix" that is evenly distributed throughout the polymer that further reduces the sliding coefficient of friction.

Specialised sliding additives enable higher loads and sliding face temperatures. Provides optimum wear performance and excellent abrasion resistance. High creep resistance, especially at elevated temperatures. Excellent fatigue behaviour. Very good mechanical strength. Very good chemical, thermal and low friction properties.

**Sustaglide®** is Green in colour. This grade has 5 times higher Pressure-Velocity capability over standard Sustamid® PA6 G type.

According to EC and FDA regulations, **Sustaglide®** is suitable for use in contact with food.

### Proven Industry Performer

Mechanical Engineering, Offshore, Electrical, Electronics, Vehicle Construction / Automotive Industries: Cars, Trucks, Forklifts, Conveying, Heavy Crane Industry, Repetition Machining, Heavy Haulage, Dairy Industry, Meat Works, Food Processing, Bottling

### Applications

Insulation bushing, Sliding Parts Under High Load: Wear Pressure Plates, Slide Bearings, Journal Bearings, Gears & Sprockets, Crane pulleys (sheaves), Truck pads and shackle bushes, Bearing pads, High speed chain guides that exceed 100 feet per minute, High load packing blocks up to 13 ton per square inch of load bearing, Bearing both in linear and circular, High impact pile driving, Meat works, Beverage



# Sustaplast Engineering Plastics

## Sustamid® 6 - Extruded Nylon

Semi-crystalline thermoplastic used for universally deployable parts exposed to high loading. It is frequently used as a substitute for aluminium and bronze. It is also excellent for production of large-volume parts.

### Proven Industry Performer

Mechanical Engineering, Offshore, Electrical, Electronics, Vehicle Construction / Automotive Industries: Cars, Trucks, Forklifts, Conveying, Heavy Crane Industry, Repetition Machining, Heavy Haulage, Dairy Industry, Meat Works, Food Processing, Bottling

### Applications

Sliding Parts, Rollers, Bushes, Bogies, Cable Winches, Lifting Gears, Rope Pulleys, Conveyor Stars/Spiral, Insulation bushing, Gears & Sprockets, Crane pulleys (sheaves), Bearing pads, Meat works, Beverage

## Sustamid® 66 - Extruded Copolymer Nylon

**Sustamid® 66 Nylon** is made from a highly viscous polymer that offers outstanding strength and tenacious properties over a wider temperature range and is also resistant to most chemicals and corrosive media.

High resistance to oils, greases, aliphatic / aromatic and most halogenated hydrocarbons. Low deformation under load and compression. Excellent electrical insulating properties. Good bearing properties.

It has the highest stiffness and hardness within the non-reinforced polyamides group and highest creep resistance within the non-reinforced polyamides group. Excellent dimensional stability.

Good long term behaviour to heat aging. Not resistant to strong acids.

EC & FDA approved for food applications.

### Proven Industry Performer

Automotive, Electrical, Electronics, Automotive Industries: Cars, Trucks, Forklifts, Conveying, Heavy Crane Industry, Repetition Machining, Heavy Haulage, Dairy Industry, Meat Works, Food Processing, Bottling

### Applications

High-Pressure Guide Rails, Slider Plates, Electrical Insulators, Gears & Sprockets, High speed chain guides that exceed 100 feet per minute, High load packing blocks up to 13 ton per sq. inch load bearing, Friction Bearings, Pump Bearings, Bearing pads, Truck pads, Shackle Bushes, Rollers, Gears



# Sustaplast Engineering Plastics

## Susta®Vacu - Vacuum Formable Glass Reinforced Nylon

**Sustavacu® Vacuum Formable Nylon Sheet** is a recently developed 12% glass fibre filled **Nylon** sheet that allows economical production of high-quality formed parts by thermo-forming.

The parameters for processing were determined in numerous thermoforming tests by the Application Technology Department of ILLIG, a world leader in thermoforming equipment.

It has very good mechanical strength. High stiffness and high rigidity. Provides excellent creep resistance, impact strength and dimensional stability. High resistance to solvents, fuels and lubricants with an excellent continuous service temperature range -20° to +140°C. High resistance to deformation at high temperature.

Can be friction or heat welded, glued using solvent glues, isocyanates, anaerobics or concentrated formic acid. It can be Vacuum Metallised subject to surface pre-treatment and it can be printed on.

Sustavacu® absorbs moisture during storage, this might cause bubbles during forming. Please refer to Sustavacu® properties and processing information [www.eplas.com.au](http://www.eplas.com.au)

Sustavacu® has been trialled by BMW and Mercedes Benz in HVAC applications.

### **Proven Industry Performer**

Automotive and Truck Industry, HVAC Industries: Heating, Ventilation and Air-conditioning, Machinery Component Manufacture, Truck and Machinery Linings,

### **Applications**

Automotive Components: Housings in HVAC Applications, Fenders, Machinery, Bezels, Side Linings of Trucks

**Special Made to Order Item: Minimum 4 sheets per product or thickness run. Lead time 16 wks**



# Sustaplast Engineering Plastics

## Sustarin® Acetal

**Sustarin® Acetal** unfilled grades are hard, strong and stiff; have good toughness although they show some notch sensitivity. Low coefficient of friction and good chemical resistance are also standard features combined with their excellent inherent dimensional stability and machinability.

The high crystallinity of **Sustarin® Acetals** impart excellent creep resistance under continuous load and fatigue endurance under repeated loading and unloading cycles. Also known as **PolyOxyMethylene** or **PolyFormaldehyde**, are available in two types, copolymer and homopolymer and both are highly crystalline linear thermoplastic polymers.

**Sustarin® Acetals** exhibit predictable mechanical, chemical and electrical properties over a broad temperature range for long periods of time. They exhibit excellent fatigue endurance under repeated loading and unloading.

**Sustarin® Acetals**, homopolymer and copolymer are available in a number of commercial stock shape grades each having specific properties. **Sustarin® Acetal** copolymer grade has the better broad range optimum benefits. Although there are few differences between homopolymer and copolymer **Sustarin® Acetals**, from an application standpoint, copolymer has exceptionally good resistance to strong alkalis and hot water hydrolysis.

### Proven Industry Performer

Automotive, Electrical, Consumer Electronics

### Applications

Precision Parts, High Performance Engineering Components, Gear Wheels, Ball Bearings, Ski Bindings, Fasteners, Knife Handles, Lock Systems



# Sustaplast Engineering Plastics

## Sustadur® - PETP (Thermoplastic Polyester)

**Sustadur® PETP (Polyethylene Terephthalate)** is a highly crystalline **thermoplastic polyester**. It has high mechanical strength, good resistance to creep, excellent dimensional stability, abrasion resistance and excellent gliding properties especially very smooth surfaces such as aluminium. It offers superior wear resistance to **Sustarin® C Acetal** and is an excellent material for close tolerance parts.

Although it absorbs very little moisture **Sustadur® PETP** does suffer from hydrolysis and should not be used in aqueous applications at temperatures above 70°C or steam environments.

**Important Note:** Due to **Sustadur® PETP's** high crystalline structure it is notch sensitive so therefore care needs to be taken when used in possible impact or shock loading applications. The specific properties of **Sustadur® PETP** virgin crystalline **PET** make it especially suited to the manufacture of mechanical precision parts which have to sustain high loads and/or are subject to wear.

### Proven Industry Performer - High-Grade And High-Strength Technical Parts

Mechanical Engineering, Electronic Industry, Ship Building Industry, Materials Handling Industry, Food Processing Industry

### Applications

Precision Gears and Bearings, Components for Precision Mechanisms, Thrust Washers, Slideways, Pump Components, Sliding Elements, Levers Handles, Control Discs, Cams

## Susta®Peek - Very High Temperature High Performance PEEK

**Susta®Peek** is a very high performance temperature **PEEK™ (Poly Ether Ether Ketone)** formula. It is a semi-crystalline thermoplastic with excellent chemical resistance to a wide range of chemical environments; even at elevated temperatures, although concentrated sulphuric acid dissolves **PEEK™**.

**Susta®Peek** is a unique engineering material with a glass transition temperature of 143°C and a melting temperature of 343°C. Independent tests have shown **PEEK™** exhibits a heat distortion temperature up to 315°C in glass fibre filled and a continuous use temperature of 260°C.

**Susta®Peek** has excellent friction and wear properties which are optimised in the specially formulated tribological grade, which contains 10% Graphite, 10% PTFE and 10% Carbon Fibres.

**Susta®Peek** is a highly stable polymer and requires no flame-retardants or additives to achieve UL 94 V-O rating at 1.45mm thickness. The composition and inherent purity of **PEEK™** results in extremely low smoke and toxic gas emission in fire situations.

**Susta®Peek** is not chemically attacked by water or pressurised steam and retains a high level of mechanical properties.

**Susta®Peek** has excellent electrical properties and low levels of extractable ionic species and outgassing.

### Proven Industry Performer

Aerospace Industry, Chemical Engineering, Medical Technology, Teletronics, Transportation

### Applications - Parts Exposed to High Temperatures, Mechanical Loads, X-Rays or Gamma Rays

Electric Insulators and Housings, Wire and Cable Insulation, Rotor Arms, Friction Discs and Seals, Shock Absorbers, Components for Analytical Equipment, Components for Dialysis Equipment, Valve Linings, Impeller Wheels for Pumps

# Polycarbonate

A highly favoured engineering material, **Polycarbonate** is strong and tough with outstanding impact strength. An extremely durable material with high impact-resistance and excellent formability.

**Polycarbonate** is stronger than **Acrylic** and **PMAA** and holds up longer under extreme temperature. It is very easy to work, mould and thermoform. **Polycarbonate thermoplastic polymers** contain carbonate groups in their chemical composition which lend to their strength.

**Polycarbonate** is highly transparent and transmits light better than many types of glass and is an excellent replacement where shatter-proofing is priority. However, it has low scratch-resistance so in certain applications such as eye glass lenses or exposed exterior automotive parts such as motor vehicle light covers a hard coating is applied.

**Polycarbonate** has excellent formability setting it apart from many other thermoplastics. For example, where **Acrylic** is brittle, **Polycarbonate** can be deformed using sheet metal techniques at room temperature and will not crack or break. Depending on the sharpness and radius of tight bends, in some cases it will still not require heating to form the shape.

**Sustanat® Polycarbonate** is an excellent prototyping material. Particularly when sheet metal is inappropriate such as where a part needs to be transparent or electrically non-conductive.

## Proven Industry Performer

Automotive, Electrical, Medical Technology, Architectural - Glass replacement, Security

## Applications Requiring High Dimensional Stability

Insulating Parts, Coil Bodies, Relay Components, Plugs, All Types of Lights, Rear Vehicle Lights, Apparatus Engineering Housings, Protective Covers, Medical Consumables, Transparent Guards and Walls



# PTFE

**PTFE** is as a high performance product with many practical applications. Famous for its extremely good non-stick, slip characteristics, it also provides exceptional thermal, electrical and chemical properties that supersede its mechanical features. A fluorocarbon solid with high-molecular-weight composed wholly of carbon and fluorine that is diverse in its application.

Product Name	Material Type – PTFE (Polytetrafluoroethylene)
Virgin / Unfilled PTFE	PTFE
25% Glass Filled PTFE	PTFE with 25% Glass Filler
Carbon Filled PTFE	PTFE with Carbon Filler

Widely used as non-stick coating for fry pans and cook ware, **PTFE** is most familiar to many people as Teflon® brand by DuPont, the originators of **PTFE** compound. E-Plas provides the highest quality **PTFE** range through top European manufacturer Guarniflon, Italy.

It is used to make pipes, containers and other containment devices where corrosive or reactive chemicals are present (except for alkali and hydrofluoric acid) because of its non-reactive properties imparted to some degree by the strength of carbon–fluorine bonds. Insoluble in all known solvents below 300°C. High thermal stability, continuous service temperature range -270° to 260°C

**PTFE** used for its lubricant property reduces friction, wear and energy consumption of machinery.

Optical radiometry applications include **PTFE** sheets for measuring heads in spectroradiometers and broadband radiometers. **PTFE** is able to diffuse transmitting light extremely well. Its optical properties remain constant from UV down to near infrared wavelengths.

It is used as a graft material in surgical interventions in particular for treating vascular disease.

Non-toxic EU and FDA approval for food contact applications.

**PTFE** is hydrophobic. It cannot be made wet by water nor substances containing water.

**PTFE** tubes are used in gas-gas heat and gas cleaning applications.

It has one of the lowest coefficients of friction of any material.

## Proven Industry Performer in Diverse Industries

Cook Ware, Pipes, Industrial Containers and Containment, Medical/Surgical, Laboratory Equipment, Chemical Industry, Pumping / Pump Manufacture, Electrical Insulation





# PTFE

## Virgin / Unfilled PTFE

Virgin / Unfilled PTFE is the most common form or standard grade and has some unique features which, apart from its good slip characteristics and as a high performance plastic provides the advantages of excellent thermal, electrical and chemical properties. It is less noted for its mechanical properties. It is non-stick, chemically inert and hydrophobic. It has one of the lowest coefficients of friction and is chemically inert. It can handle harsh chemical exposure to extreme conditions and climate thanks to its thermal stability. This also means it weathers well and resist stress cracking. It has diversity. Being chemically inert and non-toxic (approved for food applications) it is perfect for applications as polarised as food preparation to medical application as used for surgical grafts. It is also easily machined however has poor mechanical strength.

### Proven Industry Performer

Cook / Bake Ware, Food Preparation, Medical / Surgical, Chemical Handling & Transportation, Laboratory Equipment, Seals, Valve & Pump Manufacture

### Applications

Laboratory Equipment, Chemical Transfer Tubing, Linings And Coatings, Mechanical Seals, Valve Seats, Ball Valve Seats and Seals, Glandless Valves and Pumps, Electrical Insulators, Expansion Bearings, Bridge Bearing Pads, Chemical Bellows, Spiral Back-Up Rings, Gaskets, Packings, Vee Rings

## 25% Glass Filled PTFE

Milled glass fibres have the least effect on chemical and electrical properties and add greatly to the mechanical strength of Virgin or unfilled **PTFE**. The addition of glass improves compressive properties and creep strength by as much as 40% and improves wear resistance dramatically. Although resistant to acids and oxidation, it can be attacked by alkali. Increased dimensional stability. Non-stick and non-toxic.

### Proven Industry Performer

Pumping / Pump Manufacture, Pipe Fixtures/Supports, Laboratory Equipment, Bearings

### Applications

Shaft Seals, Gaskets, Bridge Bearings, Slide Bearings, Bushes, Laboratory Parts, Pipe Supports, Piston Rings, Piston Rod Packings in Compressor Plunger Pumps & Valves

## Carbon Filled PTFE

**Carbon Filled PTFE** is anti-static and maintains the same levels of chemical resistance and temperature range as virgin grade which results in excellent resistance to corrosive environments. Good initial wear in rubbing or sliding wear applications in both dry and wet operations. Frequently used in piston rings to reduce cylinder wall wear by entrapping abrasive foreign particles in the relatively soft surface. It will not scuff surfaces it comes in contact with. Smooth surface finish. Non-stick and non-toxic.

Carbon filled PTFE is much harder with better creep resistance and thermal conductivity. Percentage of carbon can range from 5% to 33%. Also available with **graphite additive** to improve sliding properties. The addition of carbon filler greatly improves machinability allowing for finer tolerances and better finishes than Virgin PTFE.

### Proven Industry Performer

Gas and Petrochemical Industries

### Applications

Seal Rings, Piston Rings, Compressor Rings, Bushes, Sleeves, Higher Load Gaskets, Water Apps.

## LDPE

Primarily used as a film material in the packaging industry **Low Density Polyethylene** or **LDPE** is gaining wide acceptance as a useful material in the orthotics and prosthetics industry. LDPE's flexibility has provided the solution to many problems in this field. Having a much lower thermoforming temperature and extremely malleable, **LDPE** has many fabricating advantages over materials such as **HDPE** and **PETG**.

### Proven Industry Performer

Medical: Orthotics, Prosthetics, Packaging Industry

### Applications

Orthotic Appliances, Packaging, Prosthetics

## HDPE

Introduced in the mid 1950's High Density Polyethylene or **HDPE** has become a common fixture in the plastics world. Applications range from household goods to pressure piping. It has good sliding properties.

Even at low temperatures with high chemical and high corrosion resistance. FDA approved for food contact. Lightweight, it has very good chemical resistance. Easy to fabricate, Widely used as a low cost alternative to traditional materials in the industrial field. **Black HDPE** provides excellent UV resistance.

### Proven Industry Performer

Food and Beverage Production and Preparation, Chemical, Marine, Manufacturing

### Applications

Chemical Tanks, Scrubbers, Cutting Boards, Pipes, Bollards, Dock Fenders, Rollers, Washers, Bushes

## PPE

**PPE, PolyPhenylene Ether** or **Poly Phenylene Oxide** has excellent physical, chemical and electrical insulation properties, particularly as it is almost independent of frequency and temperature. Has low density, high strength and high stiffness. **PPE** is self-extinguishing.

It has high dimensional stability over a wide temperature range with low water absorption and good electrical properties. Good resistance to hydrolysis. Excellent resistance to acids and alkaline solutions.

### Proven Industry Performer

Electrical Products/Equipment, Film and Photographic Equipment, Lighting

### Applications

Housing Material in Electrical Appliances such as Hair Dryers, Office Equipment, Cameras, Projectors, Instrument Clusters and Light Housings

## POLYURETHANE

**PU** or **Polyurethane** elastomers are extremely versatile and can be manufactured to suit individual needs to meet a range of demanding applications. High coefficient of friction or grip properties.

Excellent compression and tear strength. Good mechanical properties. High elongation with high tensile strength. Exceptional resilience even in hardness range of 20 shore A (gum eraser) to 80 shore D (golf ball). Excellent flex. Very good at low temp. 80° C continuous working temp. Good chemical resistance except strong acids and alkalis. Highly resistant to degrading from oxygen and ozone. Sound attenuation properties.

### Proven Industry Performer

Manufacturing, Conveying, Timber Industry, Machinery Components

### Applications

Bushes, Rollers, Wheels, Chute Liners, Conveyor Rollers, Oil Seals, Pump Impellers, Anti Vibrations Pads, Timber Handling Components, Flexible Couplings



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