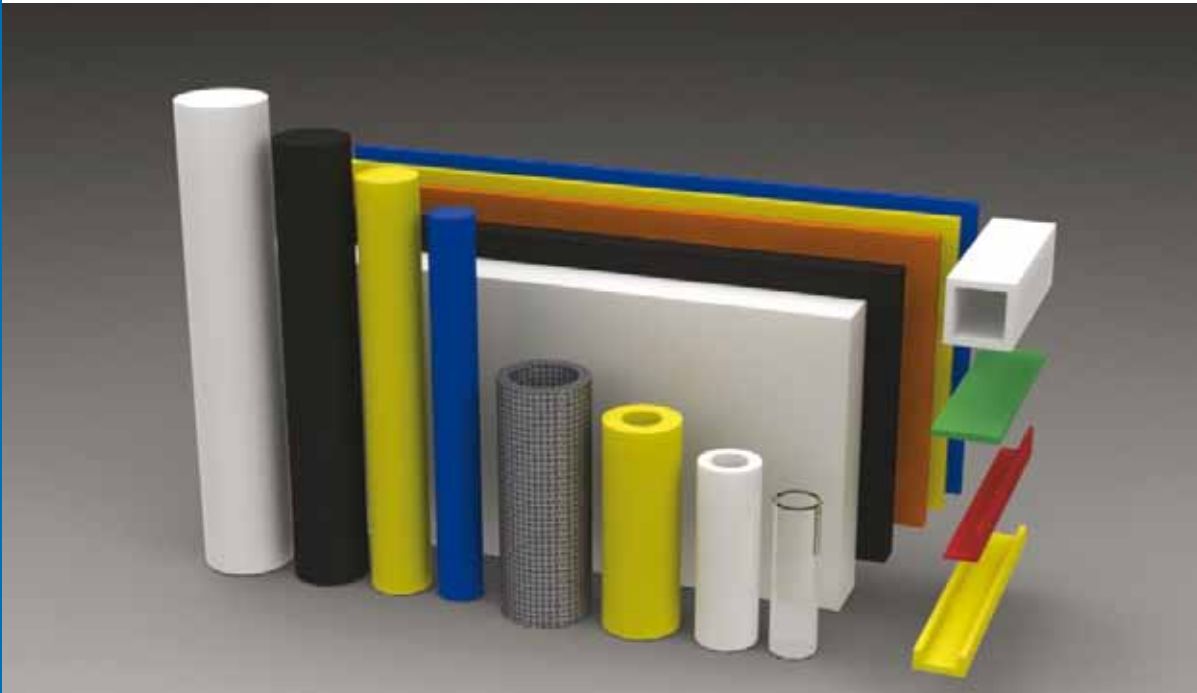


ENGINEERING PLASTIC PRODUCTS



SUPPLY SERVICES LTD 
PERFORMANCE ENGINEERING PRODUCTS
Phone 0800 102 112 - www.supplyservices.co.nz

Established 1980

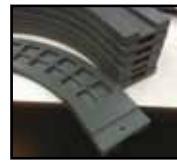
New Zealand's most durable engineering plastics master distributor

STANDARD PLASTICS

Polyslick™ XL

Polyslick™ XL is the superlative abrasion resistant grade of Ultra High Molecular Weight (UHMW) Polyethylene. XL grade is further enhanced with either silicone (XLS) for release and slip, or with glass (GXL) for unparalleled wear resistance. POLYSLICK™ XL grades are UV stabilised and have reduced thermal expansion.

Colour: Orange or Grey
Specs: PE-UHMW enhanced
Long Term Service Temp: 90°C



Polyslick™ Virgin

Ultra High Molecular Weight Polyethylene is often referred to as the world's toughest polymer. PE-UHMW has high abrasion resistance, as well as excellent impact strength. It is chemically resistant and has a low coefficient of friction which makes it highly effective in a variety of applications.

Colour: Natural, Black & Colours
Specs: PE-UHMW Virgin
Long Term Service Temp: 90°C



Polyslick™ Repro

Reprocessed grade PE-UHMW utilises finely ground post production material to produce an economical substitute to using 100% virgin resin. Technical properties will be reduced from virgin material although hardness may be slightly increased. Generally the colour is black but it may show other coloured particles.

Colour: Black
Specs: PE-UHMW Reprocessed
Long Term Service Temp: 90°C



Densetec™ HMW (PE500)

Compared to PE-UHMW, PE-HMW has approximately 10% of the impact strength and only 25% of its abrasion resistance. PE-HMW has a slightly better price point than PE-UHMW and may be used where impact and abrasion are not a primary concern.

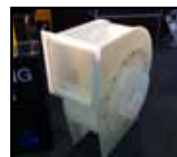
Colour: Natural, Black & Colours
Specs: PE-HMW Virgin
Long Term Service Temp: 90°C



Densetec™ HDPE (PE300)

Compared to PE-UHMW, PE-HD has approximately 6% of the impact strength and only 25% of its abrasion resistance. PE-HD has the highest tensile strength of both PE-UHMW and PE-HMW and is the hardest material of the three. Typically, it is an extruded sheet product which can have a glossy or embossed finish.

Colour: Natural, Black & Colours
Specs: PE-HD Virgin
Long Term Service Temp: 90 °C



Densetec™ Polypropylene

Polypropylene offers a good balance of thermal, chemical and electrical properties with moderate strength. Copolymers offer better impact resistance, while Homopolymers are stiffer and have higher operating temperatures. Abrasion resistance is poor.

Colour: Natural, Black, White, Beige
Specs: PP-C & PP-H
Long Term Service Temp: PP-C 80 °C
Long Term Service Temp: PP-H 100 °C



Rigid uPVC

Excellent strength to weight ratio, chemical and flame resistance, make unplasticised PVC the material of choice for a wide range of applications.

Colour: Grey, Black, Red, Blue, White, Orange
Long Term Service Temp: 60°C



ABS

ABS offers a good balance of mechanical, chemical and electrical characteristics. Impact properties are also exceptionally good at room temperature.

Colour: Grey & Ivory
Specs: TECARAN
Long Term Service Temp: 75°C



Acrylic PMMA

Acrylics are strong, stable, weather resistant and thermoformable. Sheets are available in transparent, translucent, and opaque colours, as well as a variety of surface textures. Also known as Perspex®.

Colour: Clear & Colours
Long Term Service Temp: 80°C



Polyurethane PU

An elastomeric material of exceptional physical properties such as, toughness, flexibility and resistance to abrasion, temperature, puncture and tearing. Its hardness can vary from very soft to extremely hard. Polyurethane combines the toughness of metal with the elasticity of rubber. Polyurethane can be custom cast, enabling it to be cost effective for small to medium production runs.

Colour: Transparent & Colours
Long Term Service Temp: 85 °C

ENGINEERING PLASTICS

Extruded Nylon PA6E

Good damping capacity, good impact strength and a high degree of toughness even at low temperatures. Good wear resistance, especially against rough frictional surfaces.

Colour: Natural
Specs: TECAMID 6
Long Term Service Temp: 100°C



Extruded Nylon PA66E

PA66E has good rigidity, hardness, abrasion resistance and thermal dimensional stability. It has better machinability than PA6E and is particularly suitable for parts which are subjected to high mechanical and thermal loads.

Colour: Natural
Specs: TECAMID 66
Long Term Service Temp: 100°C



Cast Nylon PA6C

Compared to extruded PA6E, cast nylon has better physical properties such as higher tensile strength, maximum stiffness and hardness, better wear resistance, lower moisture absorption and better dimensional stability. It particularly suits the production of large parts and thick wall sections.

Colour: Natural & Colours
Specs: TECAST T
Long Term Service Temp: 100°C



Cast Nylon PA6C MoS₂ Filled

Similar to standard PA6C but with good UV resistance and improved sliding properties. Higher surface hardness and good machinability.

Colour: Black
Specs: TECAST T MO
Long Term Service Temp: 100°C



Cast Nylon PA6C Oil Filled

NYLON OIL is a lubricant modified cast PA6C which is particularly suitable for applications involving dry running. The uniform distribution of lubricant over the whole cross-section achieved with NYLON OIL guarantees a constant sliding and wear behaviour throughout the whole service life. Sliding wear rate, coefficient of sliding friction and emergency running properties are vastly improved by comparison with standard PA6C.

Colour: Yellow
Specs: TECAST L Yellow
Long Term Service Temp: 100°C



Acetal POM-C

Low moisture uptake, good fatigue strength and rigidity, easily machined, good dimensional stability for parts with tight tolerances. Good sliding characteristics.

Colour: White, Black & Blue
Specs: TECAFORM AH
Long Term Service Temp: 100°C



Acetal PE Blend (POM-C + 10PE)

Similar to Acetal POM-C but with added PE as a solid lubricant for improved sliding properties and abrasion resistance.

Colour: Blue
Specs: TECAFORM AH LA Blue
Long Term Service Temp: 100°C



PET

Good wear properties in moist or dry surroundings, high dimensional stability due to low thermal expansion, low moisture uptake, good dielectric properties, good chemical resistance.

Colour: White
Specs: TECAFORM AH LA Blue
Long Term Service Temp: 110°C



PET TF (PET + PTFE)

Similar to standard PET but with a lower coefficient of friction and enhanced sliding and abrasion resistant properties.

Colour: Light Grey
Specs: TECAFORM AH LA Blue
Long Term Service Temp: 110°C



Polycarbonate PC

Polycarbonates are transparent and have exceptional high impact properties over a wide temperature range. It can be hot or cold formed.

Colour: Transparent
Specs: TECAFORM AH LA Blue
Long Term Service Temp: 120°C



HIGH PERFORMANCE PLASTICS

PTFE (Teflon®)

Highest chemical resistance with a continuous service temperature of 260°C. Exceptional sliding characteristics, as well as excellent electrical properties. Inherently flame retardant. Teflon is the registered trade mark of DuPont.

Fillers are available such as glass, carbon, bronze etc to improve certain properties.

Colour: White

Specs: TECAFLON

Long Term Service Temp: 260°C

PEEK

Excellent sliding properties, very good mechanical properties, even under thermal load and has excellent resistance to chemicals. The high continuous working temperature rounds out the profile of this high performance plastic and makes it a virtually universally useable design material for highly stressed parts. Continuous service temperature is 260°C.

Fillers are available such as glass, carbon, graphite, carbon fibres & ceramics. TECAPEEK PVX is a specialist Bearing Grade (coloured black).

Colour: Light brown

Specs: TECAPEEK

Long Term Service Temp: 260°C

OTHER PRODUCTS

There are many additional plastic materials which have various niches in such markets as medical, automotive, aerospace and semi-conductor manufacturing to name a few. Please contact us for further technical information and availability.

STANDARD PLASTICS

PPE

Long Term Service Temp:

60°C

ENGINEERING PLASTICS

Nylon PA 6 GF30	TECAMID 6 GF30	100°C
Nylon PA 6 MoS ₂ Filled	TECAMID 6 MO	100°C
Nylon PA 66 MoS ₂ Filled	TECAMID 66 MO	110°C
Nylon PA 66 GF30	TECAMID 66 GF30	110°C
Acetal POM-H (Homopolymer)	TECAFORM AD	110°C
PBT GF30	TECADUR PBT GF30	110°C

Long Term Service Temp:

HIGH PERFORMANCE PLASTICS

PVDF	TECAFLON PVDF	150°C
PSU	TECASON S	160°C
PPSU	TECASON P	170°C
PEI	TECAPEI	170°C
PPS	TECATRON	230°C
PAI	TECATOR	260°C
PI	TECASINT	300°C

Long Term Service Temp:



Please contact us for a full manufacturers delivery program for these products and also specific product brochures for:

- Engineering Plastics – The Manual
- Plastics Used In Food Technology
- Plastics Used In Medical Technology
- Plastics Used In Semi-Conductor Technology
- Plastics Used In Aerospace Technology

COMPOSITE PLASTICS

INDUSTRIAL & ELECTRICAL COMPOSITES

Thermoset plastic industrial laminates are uniformly dense and structurally strong materials that will not soften appreciably under the reapplication of heat. They are extremely durable plastics that are lightweight and moisture resistant. They are manufactured from various base resins such as phenolic, epoxy, melamine, silicone and polyester. Combined with various layers of reinforcing using paper, cotton or glass matting, they provide a diverse range of materials for many industries.

NEMA G10 & FR4 Epoxy/Glass

Colour: Yellow/Green

Epoxy/Glass combinations yield thermoset composites with superior physical properties and outstanding performance in both low-temperature and high-temperature environments for electronics, military, oil & gas, aerospace and power generation applications. FR4 contains brominated flame retardants for self-extinguishing flammability characteristics.

Grade NEMA C Phenolic/Canvas

Colour: Brown

Phenolic/Canvas is a coarse weave cotton machining grade for structural and mechanical applications. It has better impact strength than phenolic/paper grades.

Grade NEMA L Phenolic/Linen

Colour: Brown

Phenolic/Linen is a medium weave cotton with superior machining and punching properties over Grade C.

Grade P1 Phenolic/Paper

Colour: Brown

A general purpose paper laminate with low electrical and good mechanical properties. Suitable for low voltage applications in air or immersed in oil in the electrical industries. Complies with BS2572: 1976 Type P1.



**NORPLEX
MICARTA**
HIGH-PERFORMANCE COMPOSITES

TRIBOTEX™ COMPOSITES

Manufactured by ACM Composites in the UK, Tribotex™ materials are a range of advanced resin bonded, fibre reinforced bearing materials combining engineering fabrics, thermosetting resins and solid lubricants. It is available in the form of tube, sheet or fully machined parts.

ACM Tribotex™ L7

The L7 range of materials is our most popular range and has applications in almost every environment when tailored with the correct lubricating additives.

ACM Tribotex™ L10

The L10 range incorporates aramid fabrics to give improved temperature performance whilst retaining the low friction properties of the L7 materials.

ACM Tribotex™ L15

The L15 range of materials offers the lowest dry running friction of the ACM material range. This material is always used in conjunction with L7 which provides the bulk of the bearing and contributes to the mechanical properties, whilst the L15 provides the low friction running surface.

ACM L2 Marine™

L2 Marine is a high load composite bearing material that has been specifically formulated for marine environment applications. With virtually zero swell in water and very low thermal expansion coefficients, L2 Marine is ideally suited for rudder/pintle bearings and stern tube bearing applications. Class approvals are held from many of the world's foremost societies.

An L2 Marine and General Engineering manual are available on request.



acm
ACM COMPOSITES

TRISTAR CJ AND FCJ BEARINGS

Light weight, high strength, fatigue resistant CJ composites are the ideal bearing choice for non-lubricated, high load/low speed applications. CJ bearings provide excellent resistance to impact and shock loads and are capable of withstanding a high degree of shaft misalignment. CJ and FCJ bearings have fixed ID and OD's and just need to be pressed into a housing. Ask us for a CJ brochure or download it from our website.



TriStar
Engineered Plastic Solutions™



SPECIALTY PRODUCTS

VERSATILITY

Densetec™ Cutting Board

Densetec™ Cutting Board is engineered for durability, low maintenance and safety. Its textured, matte surface safely holds food in place without slipping. The "natural" bright white colour is favoured for its sanitary look.

By colour coding the food to the colour of the Densetec™ Cutting Board such as blue for fish, red for red meat, yellow for poultry, etc., the risk of spreading micro-organisms is greatly diminished.

Densetec™ Marine Board

Densetec™ Marine Board is specially formulated to withstand the rigors of harsh outdoor marine environments. It is UV-stabilised to resist damage and retain its beauty, even after years of direct sunlight. Increasingly, Densetec™ Marine Board is replacing wood and laminates in boating applications.

Densetec™ Partition Board

Densetec™ Partition Board is the ideal partition material for a wide variety of commercial applications such as schools, parks, stadiums, office buildings and airports. The durability of the material makes it immune to such problems as vandalism and constant traffic.

Densetec™ Playground Board

Densetec™ Playground Board is making a big splash in the playground industry. The variety of bright contrasting colours make it perfectly suited to this environment where high impact colours are required. Because the colour is embedded in the sheet, it never needs painting. Especially with the rigors and abuse that children inflict upon playground equipment, this material lasts much longer than wood.

Densetec™ Post Industrial LW

Densetec™ Post Industrial Light Weight is a utility grade sheet material that is approximately 20% lighter than standard weight HD-PE sheet. The material employs a foamed core capped with full weight skin to achieve weight reduction. A thickness of 12mm weighs only 0.69g/cm³ and absorbs virtually no moisture.

Densetec™ Pipe Grade PE80 & PE100 Sheet

Densetec™ HD-PE Pipe Grade is a higher molecular weight material than standard HD-PE. The material displays improved performance characteristics in a variety of piping applications. In addition, the material is UV stabilized and ideal for use in demanding outdoor applications. It retains its properties between -140°C and 82°C and resists most chemicals. It is also NSF certified under Standard 61 to be used in potable water piping systems. Densetec™ HD-PE Pipe Grade can be used in a variety of applications including manhole lids and bottoms, pipe reducers, trenches, sumps, pipe flanges, pipe end caps, tanks, milled flange adapters and lifting lugs.

Densetec™ Shield

Densetec™ Shield is a product specially designed for nuclear shielding applications. The material employs 5% Boron by weight to shield neutrons in a variety of applications including high intensity X-rays, cancer treatment facilities, nuclear submarines, and nuclear power plants.



SPECIALTY PRODUCTS

VERSATILITY

Densetec™ Sign Board

Densetec™ Sign Board is manufactured by extruding one colour on the inside and a contrasting colour on the outside. The layers are combined while the material is still molten. The result is a homogenous sheet that is guaranteed not to delaminate, crack or chip. It is superior to other sign materials, which are separate layers of material laminated together. The durable textured finish resists scratches and marring. The product is UV stabilized to resist deterioration in harsh outdoor environments, making it the perfect signage material.

Rocket Plate™

Need more slip from your current PE-UHMW sheet? The unique bubble surface of Rocket Plate creates point contact that considerably lowers the coefficient of friction. Rocket Plate can be used anywhere where you have to move large flat surfaced objects such as panels and boxes or under conveyor belts.

Shot-Blocker™ Bullet Resistant Sheet

Shot-Blocker™ is resistant to projectiles, ricochet, heat and fire. It is a self extinguishing thermoset composite that will not catch fire or give off toxic smoke when exposed to intense heat, making it ideal for all types of civilian and military/defense applications. Shot-Blocker™ can be manufactured in five levels of bullet resistance depending on the weapon threat and security function. Meets UL-752 standards.

BONDABLE UHMW-PE

Thin Sheet with Pressure Sensitive Adhesive

Particularly useful for light duty applications where slip or flow needs to be improved. Can be fitted with basic hand tools, no fasteners required. This PE-UHMW film or strip is available in thicknesses from 0.08mm to 3mm, widths up to 610mm and lengths of up to 60m.

NON-SKID PRODUCTS

Ultrapoly LUNS™

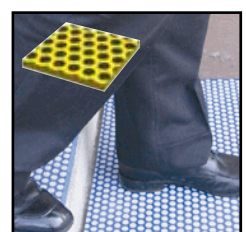
Ultra Non-Skid technology initially developed for the United States Navy has been scaled down for commercial use. LUNS™, short for Lightweight Ultra Non-Skid is an exceptionally heavy duty non-skid product. It incorporates the toughness of PE-UHMW with a coarse double sided black slag non-skid surface. Coloured black, in thicknesses from 10mm to 100mm.

Ultrapoly Braxx™

New to the Ultra Non-Skid family is Braxx™ permanent non-skid sheet. This non-skid technology is a direct replacement for non-skid tape and paint for industrial applications. The product has an impact resistant baseplate of PE-UHMW. The surface of the sheet is covered with raised non-skid truncated domes comprised of sand or slag. Not only is the product a tactile warning surface, it also has a contrasting colour theme (dark on light or light on dark). Braxx™ is available in yellow with a black slag surface and blue with a white sand surface.

Densetec™ Anti Skid

Densetec™ Anti Skid incorporates an embossed surface with your choice of either round or square protrusions on one side of the sheet. These protrusions are made from a high grip compound on the surface of the sheet presenting a tacky, high coefficient of friction material on the walking surface. Also, water drains on the surface of the sheet beneath the protrusions making Densetec™ TredSafe especially effective in wet conditions.



SERVICES

CNC Turning (2 & 4 Axis)
Conventional turning & milling
Thickening
Plastic fabrication

CNC Milling (3 & 4 Axis)
CNC Billet cutting
Custom profiles
Plastic & metal welding

CNC Routering (3 & 5 Axis)
Production keying
Cut to size rod, tube & sheet
Magnetic Particle Inspection NDT

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