

TETRON



STOCK SHAPES & PARTS



TETRON® is Dotmar's registered trade name for PTFE, or polytetrafluoroethylene. TETRON® is available either as a virgin material in semi-finished shapes or in special formulations to suit a customer's need.



PTFE and its Background

The almost incidental discovery of a white waxy solid Dupont called Teflon® has developed into a remarkably successful material. When Dr Plunket made his discovery in April 1938 he could not have imagined the role this unique material would play in industry today.

History shows PTFE to be one of the most incredible thermoplastics. Resistant to practically every chemical known to man and a surface that is slippery as ice on ice which no substance will adhere to. With temperature resistance to 327°C, this material can operate in harsh conditions for long periods and will not degrade when exposed to long term sunlight.

Over 25 years ago Dotmar decided to take advantage of this wonderfully unique thermoplastic and began processing the fine white powder into semi finished rod, tubes and sheet.

As PTFE has a melting point above 340°C, it will not flow and cannot be processed by conventional methods. PTFE has to be compressed then sintered into its required shape. After the sintering and annealing process the semi finished shape can be worked using traditional machine tools.

Alloys and Fillers

As the need for more demanding engineering uses emerge, it is possible to add a variety of fillers to pure unfilled PTFE which will improve its physical properties. The addition of these fillers through the proper combination can be tailor made to suit mechanical applications which would normally be outside the scope of virgin material.

PROPERTIES OF VIRGIN PTFE

- Not affected by almost all chemicals and solvents
- Outstanding dielectric properties
- Capable of continuous use at 260°C
- Excellent low temperature toughness
- Slippery non stick surface
- Excellent UV resistance

FILLERS ENHANCE THE PROPERTIES

- Improved resistance to cold flow or creep
- Reduction in wear and friction
- Increases in stiffness and surface hardness
- Improved thermal conductivity and dimensional stability
- Increased electrical conductivity

TETRON® Property Chart








		Ultimate Tensile Strength Test Method ASTM D1708 Units: N/mm ² Temp +23 C	Elongation Test Method ASTM D1708 Units: % Temp +23 C	Compressive Modulus Test Method ASTM D695 Units: N/mm ² Temp +23 C	Izod Impact Test Method ASTM D256 Units: J/m Temp +23 C	Test
TETRON S	Chemically inert. Low friction coefficient with ultimate non stick properties. Excellent insulation and electrical properties - excellent high and low temperature resistance.	28	300	700	160	61
TETRON G Glass Filled	Improved creep resistance at high and low temperatures, is chemically stable, with little effect on electrical properties. Improved wear and friction properties.	17	212	860	173	64
TETRON C Carbon Filled	Inert alloy which improves creep and wear resistance. Anti Static. Self lubricating properties. Hard and soft alloys are available which permit close tolerance machining.	17.6	23.8	970	169	68
TETRON B Bronze Filled	Best creep resistance of alloys. High thermal conductivity. Good wear properties for hydraulic system components. Low chemical resistance. Not suited for electrical applications.	23	322	1050	161	70
TETRON GR Glass Graphite	Low friction. Chemically inert alloy with excellent wear properties against soft metals. Self lubricating.	15-18	200-250	870	170	64
TETRON X Series	Special alloys engineered to custom individual applications. See Engineering support team				<i>Processed to order</i>	
TETRON T Series	A second generation FluoroPolymer with excellent creep resistance. Chemically inert. High Flex life for diaphragms or critical sealing edges. Most resistant to chemical permeation of all Tetron grades.				<i>Processed to order</i>	

TETRON Basic - Shape - Delivery Program Guide

Tetron Skived Tape - available etched one side to allow bonding

KEY: ■ - Goods available ex stock ○ - Some sizes available. Others available on request.

Product Description	Sheet Size	Thickness	Length	Diameter	Width	Roll	Virgin	Alloys
Tetron Sheet	610x610mm	3-50mm					■	○
	1200x1200mm	3-25mm					■	○
Tetron Skived Tape		0.12-3mm			305mm	■	■	
					1200mm	■	○	
Tetron Rod			2000mm	3-65mm			■	■
			1000mm	25-100mm			■	■
			300mm	50-150mm			■	■
Tetron Moulded Cylinders			300mm	25-175mm			○	○
			150mm	25-1400mm			○	○
Tetron Extruded Tube		Wall 0.15-1.5mm	30-300M	ID: 1.5-25mm OD: 3-28mm		■		
AWG Spaghetti Tube			■	■				■

Hardness Test Method Shore D Temp +23 °C	Permanent Deformation Test Method ASTM D621 Units % Temp +23 °C	Linear Coefficient of Thermal Expansion Test Method ASTM E831 Units 10 ⁻⁶ /°C Temp +23°C to +100°C	Thermal Conductivity Test Method ASTM C177 Units W/(mK) Temp +35 °C	Dielectric Strength Test Method ASTM D149 Units kV/mm Temp +23 °C	Surface Resistivity Test Method ASTM D257 Units Ω Temp +23 °C	Flammability Flash Point Test Method ASTM D1929 Units °C	Static Coefficient of Friction Test Method Polished Steel Temp +23 °C	Chemical Resistance Temp +200 °C	Specific Gravity Test Method ASTM C1457 Temp +23 °C		
15	MD=125 CD=129	0.24	59	10 ¹⁷	530	0.05-0.08	EX	2.17	CUSTOM PARTS		
14	MD=136 CD=84	0.41	12.6	>10 ¹⁶	530	0.07	VG	2.22	CUSTOM PARTS		
8.5	MD=114 CD=70	0.58	-	10 ⁷	630	0.09	VG	2.08	CUSTOM PARTS		
8.4	MD=134 CD=132	0.57	-	>10 ¹⁶	640	0.09	Limited	3.90	CUSTOM PARTS		
13.1	MD=112 CD=68	0.38	2.48	10 ⁷	630	0.07	VG	2.20	CUSTOM PARTS		
<i>to individual customer requirements.</i>											CUSTOM PARTS
<i>to individual customer requirements.</i>											CUSTOM PARTS





COMPANY PROFILE

Dotmar Engineering Plastic Products was founded in 1967 and is currently the largest importer and distributor of thermoplastic stock shapes, polyurethane and conveyor components in Australia and New Zealand. Dotmar's distribution footprint extends to over 5,000 customers servicing over 100 diverse industry sectors.

Dotmar has built up its market-leading position by delivering a high level of customer service and applications advice, supported by a deep level of technical expertise. Dotmar is at the forefront of developing thermoplastic applications for commercial and industrial use and has built up a highly-skilled product development team supported by a network of mechanical engineers. Dotmar offers an extensive knowledge base in thermoplastics, polyurethane & conveyor products coupled with strong partnerships with world leading manufacturers.

Dotmar's focus is the technical application of thermoplastic materials in a number of exciting industries, ranging from pharmaceutical and materials handling to as far a field as architectural design. Dotmar excels in distribution, technical support, material selection and applications development.

So why choose the market leader...

- Offering the widest range of quality engineering thermoplastics
- Specialists in our field, offering the highest levels of material selection advice and technical support in the industry
- Largest distribution footprint in Australia and New Zealand
- Capital investment in inventory - commitment to continuous material supply and customer service delivery
- Long-standing partnerships with the world leaders in thermoplastics manufacturing

Dotmar is focused on three key areas of the business...



Materials Distribution

Import and Distribution

Representing world leading ISO9002 accredited, semi-finished thermoplastics manufacturers

Semi-finished delivery programme in rod, sheet or tube.

The distribution of specialised conveyor components and chain to the bottling, beverage and food industry.

Extensive range and largest stock holding in Australia/NZ.

Wide-spread distribution network through Dotmar branches and strategic partner resellers.

Applications Development

Supporting innovative applications development.

Unsurpassed in-house technical expertise/support Thermoplastic /polyurethane applications advice.

CAMSAD

"Computer Aided Material Selection and Design".

RITA

"Rochling Integrated Tank Building Assistant".

Custom Manufacturing & Engineering

Manufacture of polyurethane parts and components.

Manufacture of cast nylons stock shapes for special nylon products.

Engineering and conversion of semi-finished stock shapes into finished plastic parts.

Thermoplastic trained, technical teams using state of the art machining facilities.

CAD/CAM Manufacturing & Design
CNC – Machining Milling / Routing / Spindle Moulding.





AUSTRALIA

- Victoria
- New South Wales
- Queensland
- South Australia
- Western Australia
- Tasmania

NEW ZEALAND

- Auckland
- Christchurch
- Palmerston North
- Hamilton
- Dunedin



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