

**TETRON®** | STOCK SHAPES | PARTS



...application solutions, custom engineering.

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.

Since the early 70's, 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.

## TETRON® Property Chart

		Ultimate Tensile Strength Test Method ASTM D1708 Units N/mm <sup>2</sup> Temp +23°C	Elongation Test Method ASTM D1708 Units % Temp +23°C	Compressive Modulus Test Method ASTM D695 Units N/mm <sup>2</sup> Temp +23°C	Load Impact Test Method ASTM D256 Units J/m Temp +23°C	Hardness Test Metho Temp
<b>TETRON® S</b>	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
<b>TETRON® G Glass Filled</b>	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
<b>TETRON® C Carbon Filled</b>	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	238	970	169	68
<b>TETRON® B Bronze Filled</b>	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
<b>TETRON® GR Glass Graphite</b>	Low friction. Chemically inert alloy with excellent wear properties against soft metals. Self lubricating.	15-18	200-250	870	170	64
<b>TETRON® X Series</b>	Special alloys engineered to custom individual applications. See Engineering support team					
<b>TETRON® T Series</b>	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 Teton grades.					

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.

### 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.



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 $\times 10^{-6}/^{\circ}\text{C}$ 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 K 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			
Processed to individual customer requirements.											CUSTOM PARTS	
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## 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 1200x1200mm	3-50mm 3-100mm					■ ■	○ ○
Tetron Skived Tape		0.12-3mm			305mm 1200mm	■ ■	■ ○	
Tetron Rod			2000mm 1000mm 300mm	3-65mm 25-100mm 50-150mm			■ ■ ■	■ ■ ■
Tetron Moulded Cylinders			300mm 150mm	25-175mm 25-1400mm			○ ○	○ ○
Tetron Extruded Tube		Wall 0.15-1.5mm	30-300M	ID: 1.5-25mm OD: 3-28mm		■		
AWG Spaghetti Tube			■	■				■

### 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

*The suggestions and data presented here are based on information we believe to be accurate and reliable. They are given in good faith, but without guarantee, as the conditions and methods of use of our products are beyond our control. Each user should make his own tests to determine the suitability of our materials and suggestions before adopting them on a commercial scale. This publication is not to be taken as a license to operate under, or recommendation to infringe upon, any patents.*



**DOTMAR**  
 ENGINEERING PLASTIC PRODUCTS



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