

### Applications

- Retainer rings in CMP machines
- Semiconductor machine components
- Bearings, bushings
- Pump, valve, seal components
- Electrical components

### Advantages

- High chemical resistance
- High temperature applications
- Excellent dimensional stability
- Essentially zero moisture absorption
- Machines to tight tolerances

### Performance Characteristics

FDA compliant

### Grades

- Glass filled
- Glass/mineral filled
- Internally lubricated
- Carbon filled

NOTE: Several grades of this material are available. For additional information regarding this plastic, contact your Emco Industrial Plastics representative or call (800) 292-9906.

### PPS

#### PPS, Unfilled

#### [ Polyphenylene Sulfide, Unfilled ]

Polyphenylene sulfide (PPS) offers the best chemical resistance with no known solvents below 392°F (200°C). Low moisture absorption, good mechanical and excellent thermal resistance properties make PPS ideally suited for precise tolerance machined components.

Polyphenylene sulfide (PPS) is a semi-crystalline engineering thermoplastic. It is suitable for applications requiring thermal stability to 425° and structural integrity to 225°. A very low coefficient of linear thermal expansion, combined with stress-relieved manufacturing, make unfilled PPS ideally suited for precise-tolerance machined components. PPS is well suited for structural applications in corrosive environments or as a lower-temperature replacement for PEEK. Its low ionic impurities make it an excellent choice for applications where high purity is a concern.

Additional PPS grades are available, i.e., glass filled, glass/mineral filled, internally lubricated, and formulations within these grades which offer low friction, high limiting PVs, bearing strength, wear resistance, heat stability, increased impact strength and static control properties are available to meet various requirement levels. Contact an Emco Industrial Plastics representative who can help you choose the correct material to meet specific application demands.

### Brand Names

Tecatron®, Ryton®, Fortron®, Polystone PPS, Sustatron®, Techtron®, Unitron®, Ensifide®, Hydlar® G (PPS/Kevlar® alloy), Ensifide®

Emco Industrial Plastics doesn't claim to represent all of the manufacturers or trade name products listed. This list is intended as a guide of typical materials available for purchase from Emco Industrial Plastics, Inc. For additional information, contact an Emco Industrial Plastics representative at (800) 292-9906.

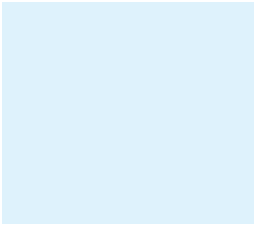
### Availability

TYPE	SIZE	LENGTH	COLOR
Sheet	1/4" - 3" TH	12", 24" x 48"	Off-White, Black
Rod	1/4" - 4" DIA	Std. foot lengths; CTS	Off-White, Black
Tube	0.75" - 10-1/2" ID; various OD	Std. foot lengths; CTS	Off-White, Black
Other	Discs		

**Give us your cut-to-size dimensions. We will precision-cut these plastics to your exact size. Additional sizes and colors available upon request.**

### Properties

PHYSICAL PROPERTIES	UNITS	ASTM	RESULTS
Density	lb/in <sup>3</sup>	D792	0.049
Water Absorption, 24 hrs	%	D570	0.01
MECHANICAL PROPERTIES	UNITS	ASTM	RESULTS
Tensile Strength	psi	D638	13500
Tensile Modulus	psi	D638	500000
Tensile Elongation @Break	%	D638	15
Flexural Strength	psi	D790	21000
Flexural Modulus	psi		400000 575000
Compressive Strength	psi	D695	21500
Compressive Modulus	psi	D695	430000
Hardness, Rockwell R		D785	R125/M95
IZOD Impact Strength Notched	ft-lb/in	D256	0.6
THERMAL PROPERTIES	UNITS	ASTM	RESULTS



Coefficient of  
Linear  
Thermal  
Expansion

(x 10<sup>-5</sup> in./in./°F) D256 2.8 Heat Deflection Temp at 264 psi °F 250 Max  
Operating Temp °F 425 Thermal Conductivity BTU-in/ft<sup>2</sup>-hr-°F C177 2  
Flammability Rating UL94 V - O **ELECTRICAL PROPERTIES** UNITS ASTM RESULTS  
Dielectric Strength V/mil D149 540 @1/8" th. Dielectric Constant @ 1 MHz  
D150 3 Dissipation Factor @ 1 MHz D150 0.0013 Volume Resistivity, 50% RH  
ohm-cm D257 4.5 x 10<sup>16</sup> NOTE: The property values presented above are  
typical values intended for reference and comparison purposes only. They  
should NOT be used as a basis for design specifications or quality control.  
Contact us for manufacturers' complete material property datasheets. All  
values at 73°F (23°C) unless otherwise noted.