

# TECHNICAL BULLETIN: PTFE LANTERN RINGS

IPM-TEK produces a variety of machined Virgin and Filled PTFE Lantern Rings. Designed for use in applications such as Centrifugal, Turbine, Boiler, Feed, and Condensate Return Pumps; Wastewater, Slurry, Sludge, Pulp, Paper Stock, and Positive Displacement Pumps, as well as, Agitators, Mixers, and more.

PTFE Lantern Rings provide a low friction product that is inert to most liquids and corrosives, and is also non-contaminating, making it the ideal material for use in applications where metals and alloys would corrode quickly. The PTFE Lantern Rings will not score pump shafts or sleeves.

The Lantern Ring provides a means by which the packing can be kept cool, lubricated, and flushed of abrasives and chemicals. The use of a Lantern Ring has been proven to increase the longevity of compression packing, reducing maintenance and downtime of the equipment. To ensure easy installation, they can be made as solid, split or half rings, in Inch or Metric sizes.

Capable of withstanding extreme temperatures ranging, from -328°F up to +500°F, virgin PTFE can handle harsh environments and is often used in high temperature applications.

To ensure fast and efficient service, IPM-TEK stocks a wide range of molded and extruded tube stock, in Virgin PTFE as well as blended compounds. Give IPM-TEK a call today, we can quickly and precisely machine Lantern Rings for your application.



PTFE G400 (Virgin PTFE)			
Properties	Unit	Method	Typical Value
<b>PHYSICAL - MECHANICAL</b>			
Density	g/cm <sup>3</sup>	ASTM D792	2.14 - 2.18
Hardness - Shore D	points	ASTM D2240	51 - 60
Tensile strength - CD	MPa	ISO 527	≥ 20
Elongation at break - CD	%	ISO 527	>200
Compressive strength at 1% deformation - CD	psi	ASTM D695	580 - 725
Deformation under load at room temperature after 24 hours at 13.7 N/mm <sup>2</sup> - CD	%	ASTM D621	14 - 17
Permanent deformation as above after 24 hours of rest at room temperature - CD	%	ASTM D621	7 - 8
Deformation under load at 260°C, after 24 hours at 41 N/mm <sup>2</sup> - CD	%	ASTM D621	
Permanent deformation as above after 24 hours of rest at room temperature - CD	%	ASTM D621	7 - 8
Impact strength Izod	J/m	ASTM D256	153
<b>TRIBIOLOGICAL</b>			
Dynamic coefficient of friction	/	ASTM D1894 ASTM D3702	0.06
Wear factor K	/	ASTM D3702	2.900
PV limit	at 3 m/min at 30 m/min at 300 m/min	N/mm <sup>2</sup> • m/min	2.4 4.2 5.7
<b>THERMAL</b>			
Service Temperature ( min - max )	°F	/	-328 / +500
Thermal expansion coefficient ( linear ) 25 - 100°C	10 <sup>-5</sup> in/in/°F	ASTM D696	6.625 - 7.206
<b>ELECTRICAL</b>			
Dielectric strength (specimen 0.5 mm thick)	KV/mm	ASTM D149	≥ 40
Dielectric Constant at 60 Hz and 106 Hz	/	ASTM D150	2.05 - 2.10
Volume Resistivity	Ω • cm	ASTM D257	10 <sup>18</sup>
Surface Resistivity	Ω	ASTM D257	10 <sup>17</sup>

CD = Cross Direction

The data we are herewith providing are all based on laboratory testing and are proposed to technical designers as possible and useful advice. Deviations from the values indicated may occur, but they do not constitute themselves either detriment of quality or reason for rejection.

900 E. Whitcomb, Ave.  
Madison Heights, MI 48071  
Office: 225-928-0114  
Fax: 225-218-4272  
info@ipmtek.com

**IPM TEK**  
THE AMERICAN PTFE MANUFACTURER