

# Perlast® G74P

An ultra-pure grade of translucent perfluoroelastomer

## PERLAST®

### Description

A translucent beige compound with semi-crystalline perfluoropolymer nano-filler, specially developed to meet the demands of the semiconductor and bio-analytical industries. Compatible with fluorine based chemistries and universally suitable for both wet and dry semiconductor processes including Lithography, Plasma, PVD, CVD, Etch, Stripping and Cleaning.

Perlast® G74P combines a fully fluorinated polymer backbone, a fully fluorinated nano-filler system (no inorganic fillers) and a highly fluorinated cross-linking process, which results in a perfluoroelastomer with unrivalled purity, chemical resistance and mechanical properties.

Perlast® G74P exhibits extremely low out-gassing properties, making it ideal for use in vacuum applications.

### Key Attributes

- ▶ Exceptionally pure - does not contain any inorganic fillers which may cause particulation problems.
- ▶ Excellent chemical and temperature resistance.
- ▶ Excellent mechanical properties.
- ▶ Extremely low out-gassing properties making it ideal for vacuum sealing applications.
- ▶ High material compliance reduces surface permeation.
- ▶ Reduced first wafer effect.
- ▶ Lower cost of ownership.

### Typical Applications

**Dynamic seals** - gate valves, door seals, pendulum valves, ISO valves, bonded gates and lip seals.

**Static seals** - O-rings, body seals, chamber lid seals, cathode assembly seals, electro-static-chuck seals and flange fittings.

**Wafer-handling products** – end effector pads & vacuum suction pads

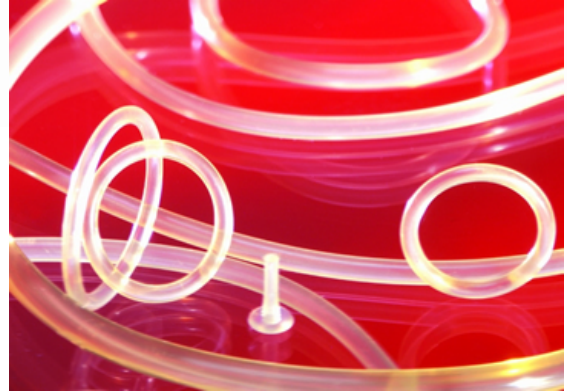
Suitable for use in wet and dry semiconductor processes including:

- Lithography
- Plasma
- PVD
- CVD
- Etch
- Stripping
- Cleaning

### Other materials in this range

Perlast G67P (ultra-pure translucent)

Perlast G75H (ultra-pure white)



### Typical Material Properties

Property	ASTM	ISO	Value
Material Type	FFKM	FFPM	
Colour			Translucent beige
Hardness: (°IRHD) (Shore A)	D1415	ISO48	70-80
	D2240	ISO7619	74
Tensile Strength (MPa)	D412	ISO37	20.0
Elongation at break (%)	D412	ISO37	255
100% Modulus (MPa)	D412	ISO37	5.8
Compression Set (%): 24 hrs @ 200°C (392°F) 70 hrs @ 204°C (400°F)	D395	ISO815	24
			38
Minimum Operating Temperature			-15°C (+5°F)
Maximum Operating Temperature			+275°C (+527°F)
Coefficient of Thermal Expansion			5.7x10 <sup>-4</sup>

**SPECIAL NOTE:** This information is to the best of our knowledge accurate and reliable. However, PPE Ltd makes no warranty, expressed or implied, that parts manufactured from this material will perform satisfactorily in the customer's application. It is the customer's responsibility to evaluate parts prior to use, especially in applications where their failure may result in injury and/or damage. It should also be noted that all elastomeric parts have a finite life, therefore a regular program of inspection and replacement is strongly recommended. In non-black grades of elastomer, it is possible to observe slight variations in colour. This is normal and is inherent in the part; it is not indicative of foreign matter. These colour variations are not expected to adversely affect the performance of the part. The material properties above should not be used for specification purposes.

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