

Perlast® G67P

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 the fluorine based chemistries and universally suitable for both wet and dry semiconductor processes including Lithgraphy, Plasma, PVD, CVD, Etch, Stripping and Cleaning.

Perlast® G67P 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 and chemical resistance.

Perlast® G67P has a significantly lower compressive modulus than traditional perfluoroelastomers, making it highly compliant. So for a given compression, it exhibits a low reaction force, this results in lower stress on the seal, which leads to longer life expectancy.

Key Attributes

- Exceptionally pure – does not contain and 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 sealing efficiency
- 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
 - PVD
 - CVD
 - Etch
 - Stripping
 - Cleaning
- Laser/optical equipment

Other materials in this range

Perlast®G74P (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 D2240	ISO48 ISO7619	60-70 63
Tensile Strength(MPa)	D412	ISO37	18.3
Elongation at break (%)	D412	ISO37	331
100% Modulus (MPa)	D412	ISO37	3.45
Compression Set(%): 24 hrs @ 200°C (392°F) 70 hrs @ 204°C (400°F)	D395	ISO815	34.5 41.0
Minimum Operating Temperature			-15°C (+5°F)
Maximum Operating Temperature			+275°C (+527°F)
Coefficient of Thermal Expansion			5.2x10 ⁻⁴

Special Note: This information is the best of our knowledge accurate and reliable. However, Abbey Seals International 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 programme 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 effect the performance of the part. The material properties above should not be used for specification purposes.

Perlast® is a registered trademark of Precision Polymer Engineering Limited.