

Perlast® GAM6

Plasma resistant perfluoroelastomer for semiconductor applications
Specifically designed and exclusively available to Applied Materials

PERLAST®

Description

Perlast® GAM6 is PPE's perfluoroelastomer grade developed specifically for high radical concentration plasma applications. Perlast® GAM6 is a fully organic, high purity material, offering excellent fluorine plasma resistance.

Perlast® GAM6 combines a fully fluorinated polymer backbone with a novel cross-linking system to provide a material with exceptional sealing performance at temperatures up to 310°C and aggressive semiconductor processes. The fully organic structure of the material helps to eliminate particles and reduce cost of ownership.

Key Attributes

- ▶ Excellent fluorine plasma resistance
- ▶ Excellent chemical resistance
- ▶ Superior high temperature performance
- ▶ Good mechanical properties
- ▶ Low out-gassing properties making it ideal for vacuum applications
- ▶ Very low trace metal content
- ▶ Very low particle generation

Typical Applications

Developed exclusively for Applied Materials for use in etching and deposition process applications. Perlast® GAM6 has been designed for low erosion and ultra-low particle generation in harsh plasma environments.

Suitable for use in wet and dry semiconductor processes including:

- ▶ Etching
- ▶ Stripping
- ▶ Cleaning
- ▶ Anneal
- ▶ LPCVD, HDPCVD, PECVD, SACVD, ALD
- ▶ PVD, MDP, EPI

Dynamic seals - Bonded Gate Valves & Isolation Valves
Pendulum Valves
Slit Valves

Static seals - Chamber O-rings
Gas inlet seals
Gas feed-through seals
Chamber lid seals etc
NW/KF fittings

Compatible with other components such as ceramics, quartz and sapphire.



Typical Material Properties

Property	ASTM	ISO	Value
Material Type	FFKM	FFPM	
Color			Brown
Hardness: (°IRHD) (Shore A)	D1415	ISO48	62
	D2240		65
Tensile Strength (MPa)	D412	ISO37	14.0
Elongation at break (%)	D412	ISO37	250
100% Modulus (MPa)	D412	ISO37	3.3
50% Modulus (MPa)			2.3
Compression Set (%): 70 hrs @ 200°C (392°F)	D395	ISO815	17
			70 hrs @ 300°C (572°F)
Minimum Operating Temperature			-15°C (+5°F)
Maximum Operating Temperature			+310°C (+590°F)

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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