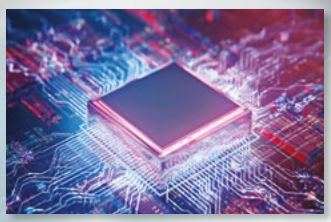
Isolast® PureFab® JPF42

HIGH-TEMPERATURE PERFLUOROELASTOMER FOR HIGH-PURITY THERMAL PROCESSES





Superior thermal stability and low compression set resists the effects of high-temperature thermal cycling, maintaining sealing force over an extended service life.

Isolast® PureFab® JPF42 is a premium perfluoroelastomer (FFKM) compound engineered specifically for high thermal stability in semiconductor applications.

Designed for use in oxidation, diffusion furnaces and Low-Pressure Chemical Vapor Deposition (LPCVD), it performs reliably under prolonged high-temperature exposure.

With exceptionally low outgassing, robust anti-cracking behavior and superior retention of sealing force at elevated temperatures, Isolast® PureFab® JPF42 is ideal for both static and dynamic sealing in fixed and rotating equipment used in high-purity thermal process chambers.

ISOLAST® PUREFAB®

The Isolast® PureFab® range is a dedicated portfolio of FFKM materials engineered for the most demanding semiconductor environments. Each grade is carefully optimized for specific application requirements, considering process chemistry, system location and tool complexity — delivering exceptional high-purity sealing performance in plasma environments and under high-temperature conditions.

Features and Benefits

- Thermally stable up to +310 °C/+590 °F, improving service life in high-purity thermal process chambers
- Enhanced compression set behavior maintains elasticity and long-term sealing force even under thermal stress
- Ultra-low outgassing reduces contamination in sensitive vacuum and high-temperature applications
- Strengthened against cracking and deformation under static or cycling thermal loads
- Engineered for extended resilience in dynamic or rotating applications using oxidation, diffusion furnaces and Low-Pressure Chemical Vapor Deposition (LPCVD)

Application Examples

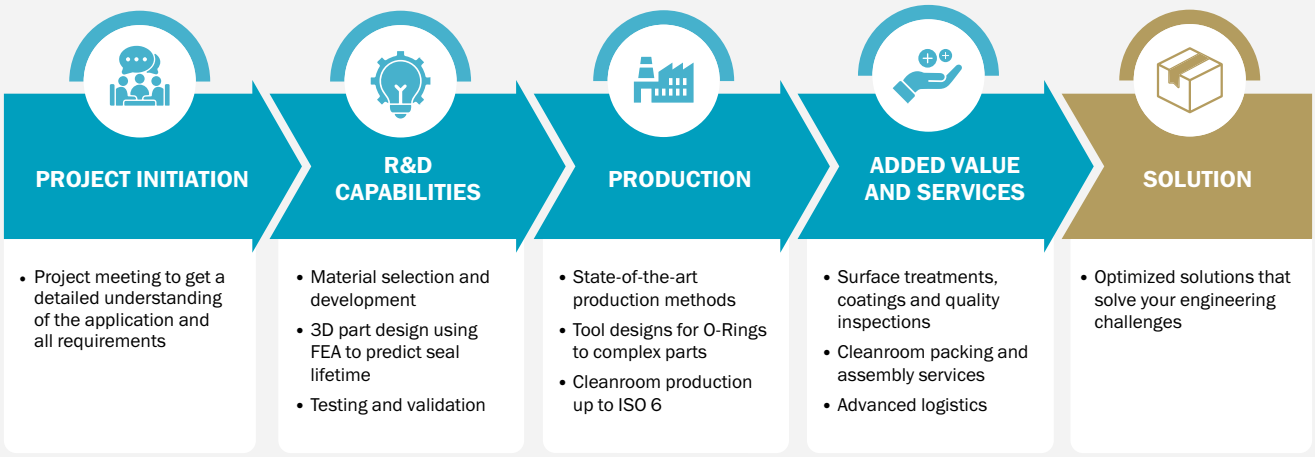
- High temperature processes, including RTP, ALD, LPCVD and diffusion furnaces
- Plenum and center ring seals
- Chamber lid seals

ISOLAST® PUREFAB® JPF42

General Data	Isolast® PureFab® JPF42
Elastomer Type	FFKM
Color	Black

Properties	Test Method	Results
Hardness (Shore A)	ASTM D2240	80
Tensile Strength (MPa)	ASTM D412	24.4
Elongation at Break (%)	ASTM D412	177
Modulus 100% (MPa)	ASTM D412	12.6
Compression Set (%)		
72h @ +200 °C/+392 °F	ASTM D395	5
72h @ +250 °C/+482 °F		16
72h @ +300 °C/+572 °F		23
72h @ +310 °C/+590 °F		28
Continuous Service Temperature		-5 °C to +310 °C / +14 °F to +590 °F

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The information in this publication is intended for general reference only and not for specific applications. Customers must satisfy themselves with the suitability of a product and material for their individual applications.

Color variations, including dark spots, are a normal result of the polymer curing process and do not indicate the presence of foreign matter or negatively impact performance, reliability or cleanliness.

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