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FFKM Supply Pressure: Why Chemical Processing Is Competing With the Semiconductor Boom

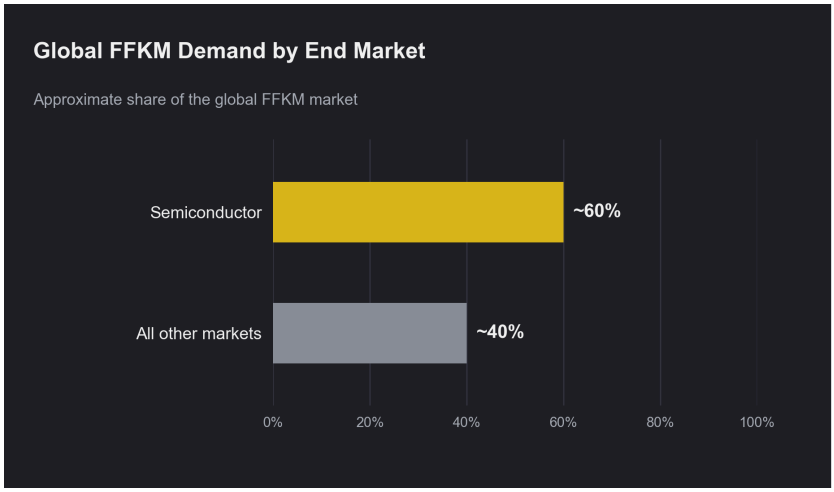
A planning guide for engineers and purchasing teams who depend on perfluoroelastomer seals.

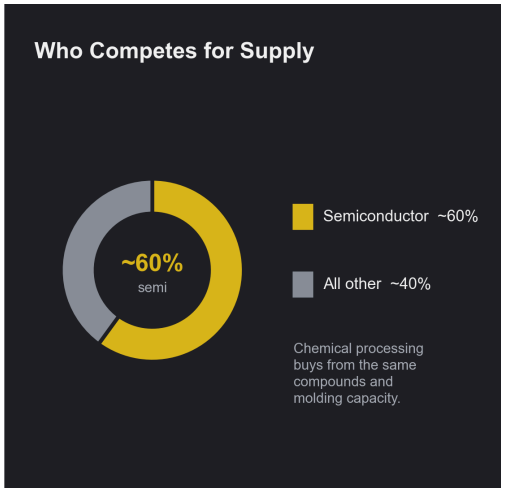
The Squeeze

Perfluoroelastomer (FFKM) seals sit in the most demanding positions in a chemical plant: mechanical seals, pumps, valves and compressors exposed to aggressive acids, solvents and hydrocarbons, often at temperatures where other elastomers fail. Chemical processors are not the only buyers of these compounds. One market research estimate puts the semiconductor industry at roughly 60% of the global FFKM market, and chipmakers are still adding fabs and advanced packaging capacity.

Chemical processors and chipmakers draw on the same compound families, the same raw materials and the same limited molding capacity. When semiconductor demand surges, the plant that needs a perfluoroelastomer seal for a pump rebuild is standing in the same line.

~60%	40 wks	2025	3x+
of global FFKM demand comes from semiconductors	longest lead times Moss Seal is hearing of on custom FFKM	3M completed its exit from FFKM production	Daikin's planned capacity vs. 2022, from 2027





Source: QYResearch FFKM market report (2025–2026). Semiconductor share is an approximate estimate; "all other markets" is the remainder.

Why the Supply Base Cannot Flex Quickly

1. **Hazardous precursor:** Tetrafluoroethylene (TFE), the core FFKM precursor, is hazardous to handle. Engineering, siting and permitting make new capacity slow and expensive to add.
2. **Permanent capacity loss:** 3M exited fluoropolymer production, including its Dyneon FFKM line, completing the withdrawal in 2025. That capacity was not replaced.
3. **New capacity is not instant:** Daikin is building a new FFKM plant in Kashima, Japan, aiming for more than triple its 2022 capacity, with commercial supply starting in 2027. Even that expansion is explicitly a response to expected semiconductor growth.

Where Lead Times Actually Bite

Standard AS568 sizes in common compounds are generally available within weeks, and several suppliers advertise short lead times on them. The exposure is elsewhere: custom geometries, non-standard sizes and specialty compounds are made to order, and those are the parts that stretch. Moss Seal is hearing of lead times reaching as long as 40 weeks on some of these items, long enough to outlast a planned turnaround or force an unplanned shutdown. Plants that have not planned for it find out at the worst moment, when a seal fails and the replacement is months away.

What Engineers and Purchasing Can Do Now

Action	Owner	Why it helps
Audit critical FFKM parts	**Engineering**	Identify which seals are non-standard sizes or single-source. These carry the longest waits and the highest outage risk.
Qualify a second source	**Both**	Qualification takes testing and sign-off. Starting before a shortage keeps it off the critical path.
Forecast and place orders earlier	**Purchasing**	Tie seal orders to turnaround schedules and PM kit demand, not to the failure date.
Stock critical spares	**Purchasing**	A small buffer of long-lead sizes costs far less than one unplanned outage.
Review compound selection	**Engineering**	Confirm each seal truly needs FFKM, and that the grade is not over-specified for the service.

A Second Source You Can Qualify Now

MCM evolast® FFKM is manufactured in Italy with a supply chain independent of the US-based sources most plants rely on. Moss Seal is the exclusive U.S. distributor.

Now Accepting Beta Qualification Partners

Moss Seal is accepting a select group of beta qualification partners who will receive engineering support, technical documentation and sample material to evaluate MCM evolast® FFKM in their own service conditions.

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Sources: QYResearch FFKM market report (2025–2026); Daikin Chemicals, Kashima FFKM expansion announcement (April 2026); Greene Tweed technical resources; Semiconductor Digest. Lead-time statement reflects Moss Seal market observation. © 2026 Moss Seal.