

Die-Cut Gaskets: A Comparison with Other Sealing Technologies

Die-Cut Foam Gaskets

Pre-formed compression gaskets cut to shape and installed directly during assembly. They do not require curing and provide stable, consistent sealing performance.

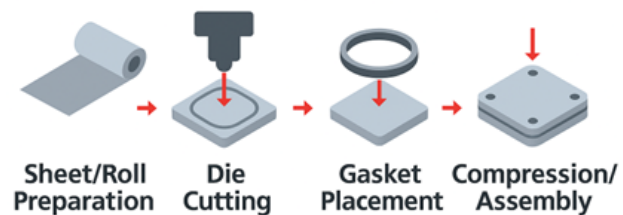
Cure-In-Place Gaskets (CIPG)

A liquid sealing material dispensed onto a part and then cured to form an elastomeric gasket. CIPG offers precise bead placement but depends on controlled dispensing and curing conditions.

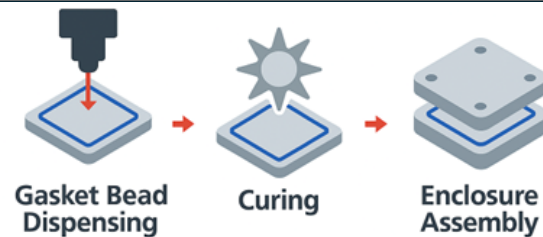
Form-In-Place Gaskets (FIPG)

A reactive liquid material dispensed directly onto the part where it forms and cures in place. FIPG supports complex geometries, is fully automated, and may function as both a seal and an adhesive depending on formulation.

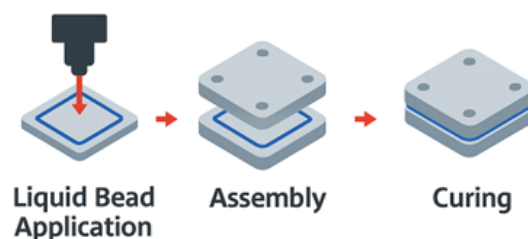
Die-cut Foam Gasket Process



Cure in Place Gasket (CIPG) Process



Form in Place Gasket (FIPG) Process



No single sealing technology is ideal for every application. Engineers must balance performance, manufacturing requirements, life cycle expectations, and cost when selecting a solution.

Rogers, as a materials provider for die-cut gasket constructions, offers the following considerations for evaluating die-cut foam gaskets compared to alternative sealing methods.

- **No curing, immediate assembly:** Because the gasket is pre-formed and requires no cure time, manufacturers can maintain fast assembly times while eliminating dedicated curing ovens or buffer zones. This is especially beneficial in high-volume assembly environments.
- **High performing short & long-term sealing:** Foam gaskets provide high performance in both short-term and long-term sealing. Their ability to maintain compression set performance, resist environmental degradation, and offer stable sealing under vibration or thermal cycling makes them ideal for long service life applications.
- **Easy rework and serviceability:** Die-cut foam gaskets can be removed and replaced without damage to the enclosure, making them the best choice where serviceability, maintenance, or field repair is required. This is critical in markets like automotive, industrial controls, and energy systems.
- **No process or environmental sensitivity:** Unlike CIPG and FIPG, die-cut gaskets require no control of humidity or temperature. This reduces process variability and eliminates the need for environmental sensors, monitoring systems, and complex feedback loops in the production space.
- **Material flexibility and performance customization:** Die-cut foam can be sourced in a wide range of foam and chemistries. Designers can tailor properties such as compression force deflection, density, thickness, compression percentage, flame or chemical resistance, and sealing performance for dust, water or air.
- **Compatibility with manual or automated installation:** Whether parts are assembled manually, using pick-and-place systems, or robotically installed, die-cut foam gaskets accommodate a broad range of assembly strategies.