

- Expands design possibilities
- Boosts production
- Reduces machining costs
- Reduces warranty risk

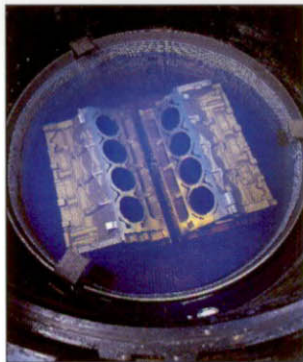
## **Baron Industries**

**Porosity Sealing Resin Systems For  
Cast Metals, Powder Metal Parts,  
Molded Plastics, and Wiring Harnesses**





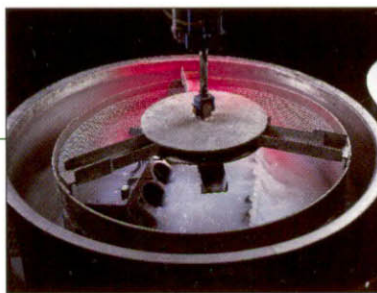
## Benefits Throughout The Process Chain



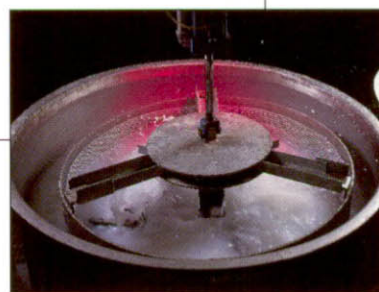
Parts immersed in resin wet vacuum cycle begins



Basket is "spun" removing bulk of excess material



Parts are then washed to further remove excess resin



Parts are then submerged in Activator Solution to initiate cure

### Design Flexibility

For designers, Loctite porosity sealing allows greater use of powder metal parts and thin-walled, lighter materials such as aluminum and magnesium castings. These metals are easier to shape into complex configurations, less costly to produce, and reduce vehicle weight.

### Reduce Costs

At the assembly level, Loctite porosity sealed parts increase production, decrease scrap, and eliminate costly inspections, tests, and repeat processing. Consistently higher quality means fewer warranty costs.



Unique package design for easy dispensing and storage.

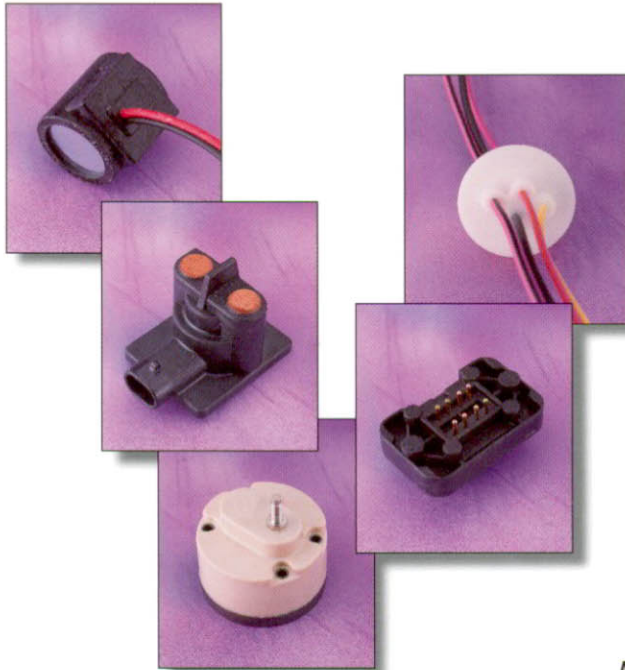
## Sealed For Life

### Castings, Powder Metal Parts, and Electrical Components

Loctite® thermoset resins thrive in the most demanding automotive environments, delivering total protection throughout the life of the vehicle for cast metal, powder metal parts, and molded plastic components.



Electronic components



Non-metallic materials, such as plastic composites in electronic components may have internal porosity that requires sealing in certain situations. Typically the leak paths in these parts or components would occur between the pin connector and the overmold as illustrated below in figure 1.

Loctite offers a variety of flexible, high temperature resistant, solvent and fluid resistant products that will eliminate these leak paths in electronic parts.

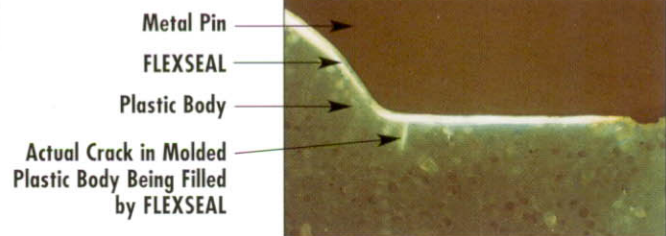


figure 1

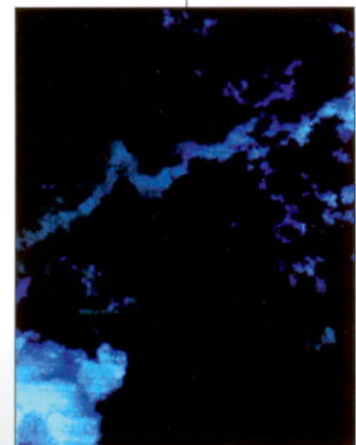
## World's Fastest Process



Magnified view of cured resin sealing porosity in a metal part.

Loctite porosity sealing is a wet vacuum, batch cycle process that totally seals parts of all sizes and shapes, everything from sensors to engine blocks. Process times are the fastest in the world, ranging from only a minute up to twenty minutes. As many as 3,000 pin connectors and other small parts can be sealed in a single immersion. Here is how the process operates:

- Parts immersed in anaerobic sealant
- Vacuum expels air from porosity
- Anaerobic resin saturates pores when vacuum is released
- Rinse cycle removes excess resin from surfaces then centrifuged to recover resin
- Resin in pores cures without heat to thermoset plastic



Cured resin exposed to ultraviolet light shows complete sealing of voids.



## World Class Research and Development

From small cycle laboratory testing to large full scale production, Loctite has it all.

### High speed, laboratory grade, flexible, Impregnation machine

- Flexible enough to run any cycle at high speeds from one to twenty minutes
- State-of-the-art PC based control and data acquisition system
- Digitally controlled
- Can run with a wide variety of sealants

### Loctite Application Process Centers

Loctite maintains a worldwide network of porosity Application Process Centers (APCs) with the systems, technology, and expertise to provide custom porosity sealing for customer components. Each center offers comprehensive evaluations and quick turnaround, delivering consistently clean, sealed parts, leak proof and ready for just-in-time assembly.

Loctite APCs annually ship millions of sealed components, and are strategically located close to their customers. For those who prefer to integrate porosity sealing into their assembly systems, Loctite designs, produces, installs, and services a complete line of turn-key processing systems.

**Large Scale Loctite®  
Porosity Sealing Resin Systems**







## From Design Through Assembly

Loctite is the only chemical company in the world that provides total porosity sealing systems. Services include component concepts and designs, testing and validation, a full range of sealing materials, custom-designed equipment, and turn-key processing stations.

- **Tough and reliable sealed parts**
- **Leak proof**
- **Corrosion resistant**
- **Thermally Resistant**

Most cast metals, powder metal parts, and molded plastic electrical components are porous. Loctite porosity sealing systems permanently eliminate microscopic voids in these parts by saturating pores with anaerobic resins that cure to an impermeable thermoset plastic. Parts emerge from this wet sealing process leak proof, corrosion resistant, and thermally resistant. Nothing penetrates the surface of these permanently sealed parts, including moisture, gasoline, antifreeze, engine and transmission fluids, cleaning solvents, and caustic cleaners, acids, road salts, sand, and grit. Thermal extremes are no problem. Loctite® sealants easily withstand temperatures ranging from -65°F to 450°F (-53.9°C to 232.2°C). They also improve the insulation of electrical and electronic components.

### Sealants For Every Requirement

Loctite offers a full line of anaerobic porosity sealants for cast metal, powder metal parts, and molded plastic components.

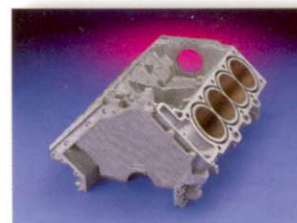
- **Resinol® RTC:** Contains 100 percent reactive washing agents for cleaning in plain water. Ideal for castings of all types.
- **PMS-50E:** Highly resistant to solvents, with a high temperature limit of 450°F for the most demanding environments
- **Flexseal™ 5100:** For molded plastic electronic components and wiring harnesses
- **Flexseal™ 5110:** For high-temperature electronics



Intake Manifolds



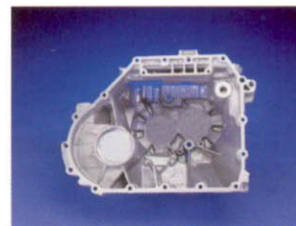
Steering gear housing



Engine blocks



Air Conditioner  
compressor housings



Automatic transmission case



Cylinder head

## Worldwide Resources and Partnerships

The Loctite Process Engineering Center in Newington, Connecticut, is dedicated to advancing porosity sealing systems and materials. The facility contains the technology and resources to test all resins and sealing processes, including batch, pressure injection, and wet or dry vacuum.

To ensure a continuous stream of solutions for OEM and Tier I customers, Loctite maintains a 200,000-square-foot research, development and engineering center at the company's North American headquarters in Rocky Hill, Connecticut. The largest RD&E operation in the world devoted to adhesives, sealants, and coatings, the center is QS-9000 certified, as are all Loctite facilities.

The new Loctite Automotive Technology Center north of Detroit is outfitted with advanced test equipment and laboratories to develop and validate porosity sealing materials and processes.

The Loctite Center For Expertise in Dublin, Ireland, develops materials for long-range automotive, industrial, electrical, and electronic applications. Other Loctite RD&E centers are in Toronto, Mexico City, Sao Paulo, Munich, and Yokohama.



• **Loctite Headquarters, Americas**  
Rocky Hill, Connecticut



• **Loctite Automotive Technology Center**  
Detroit, Michigan



• **Loctite Center For Expertise**  
Dublin, Ireland

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