

LABORATORY DATA SHEET**Product #** 1403088**Product Name** Resinol® AT**Product Description**

LOCTITE ® *Resinol AT* is a low viscosity liquid sealant designed for sealing porosity in metal castings. It may also be used to seal microscopic voids and tight interfaces in other materials. RESINOL AT sealant is typically applied with a vacuum impregnation process that removes air from porosity and then saturates the part with liquid sealant. The sealant is designed to cure anaerobically at room temperature to form a tough thermoset polymer that permanently seals the internal cavities. Excess liquid sealant is rinsed from the outside of the part with plain water. Parts processed with RESINOL AT are sealed internally, but remain cosmetically and dimensionally unchanged.

Typical Applications

RESINOL AT is used to seal castings and powder metal components against leakage of air, water, coolants, oils and other fluids. Engines, heads, manifolds, and housings in automotive powertrains and fluid handling systems have been sealed successfully for decades.

Physical Properties**Liquid Sealant**

Chemical Type:	Methacrylate monomers
Appearance under white light	Clear, straw colored liquid
Appearance in ultraviolet light	Fluorescent sky blue liquid
Viscosity @ 25°C	7cP
Density	1.06 g/ml
Flash Point	>200°F(93°C)
Shelf Life	1 year
Solubility in water	Readily emulsifiable for ease of washing

Polymerized Sealant

Base Polymer Type	Acrylic, crosslinked thermoset
Sealing performance	Excellent
Chemical resistance	Excellent
Design Limit, Continuous Temperature	177°C (350°F)

LABORATORY DATA SHEET

Use Instructions

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected for use with chlorine or other strong oxidizing materials unless otherwise specifically stated.

For safe handling information on this product, consult the material safety data sheet.

Liquid Resinol AT cures to form a thermoset plastic by a free radical polymerization reaction mechanism when confined and away from air.

Accelerated Resinol AT that is trapped within a clean porous metal part will typically cure completely within several hours at room temperature.

The polymerization of Resinol AT is initiated by chemical interaction with Loctite Anaerobic Accelerator and with certain metal surfaces. The cure rate is influenced by several factors.

- The cure rate becomes more rapid as the concentration of Accelerator is increased.
- The cure rate is increased by contact with certain metal surfaces.
- The cure rate is temperature dependent and becomes more rapid as the temperature is increased.
- Polymerization is inhibited by the presence of oxygen.
- Polymerization is inhibited by the addition of Loctite PMS Stabilizer.
- The cure rate may be influenced by contamination of certain types.

Resinol AT is maintained in a liquid state by a combination of refrigeration, aeration and controlled reactivity.

Equipment for the application of Resinol AT is designed to provide the necessary refrigeration and aeration. This processing equipment is available from Loctite Corporation.

The reactivity of accelerated Resinol AT is routinely monitored by measurement of the onset of gelation in a small sample of sealant that is held at an elevated temperature. The reactivity of the sealant can easily be adjusted in two ways:

- Adjustment of the level of Loctite Anaerobic Accelerator by either addition of the accelerator or dilution with unaccelerated sealant.
- Addition of Loctite PMS Stabilizer to reduce the reactivity of overly accelerated sealant.

The optimal reactivity for a particular application should be determined by consultation with your Loctite Sales Engineer.

Safety Data

Refer to the Loctite Material Safety Data Sheet (MSDS) for safety information.

LABORATORY DATA SHEET**Storage Conditions**

Product shall be ideally stored in a cool, dry location in unopened container at temperatures between 8-28C (46-82F) unless otherwise labeled. To prevent contamination of unused product, do not return any material to its original container.

Disclaimers

This product is experimental only. It is not now and may never be commercially available.

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected for use with chlorine or other strong oxidizing materials unless otherwise specifically stated.

This document is not to be used for product specifications. The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, Loctite Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from the sale or use of Loctite Corporation's products. Loctite Corporation specifically disclaims any liability for consequential or incidental damage of any kind, including lost profits. The discussion herein of various processes or compositions is not to be determined as representation that they are free from domination of patents owned by others or as a license under any Loctite Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this information as a guide. This product may be covered by one or more United States or foreign applications. All trademarks mentioned are the property of their rightful owners.

Originator Rick Newberth**Preparation/Revision Date** March 5, 2012