

**0896, 0896/50, 0897 Series HVAC Silicone Sealants:**

- **What is the base chemistry for Red Devil HVAC Silicone Sealants?** Acetoxy cure formulations. All are compliant to various specifications (See TDS for details).
- **Do these Red Devil Silicone Sealants enjoy FDA or UL listing?** No.
- **What total joint movement capability are the silicone formulations designed to provide?** 50% total joint movement (+/- 25% joint movement)
- **What is the recommended temperature range for application?** 10F to 100F to clean, dry surfaces – free of contamination.
- **What is the typical service temperature range for the HVAC silicone sealants sold by Red Devil?** -60F to 400F.
- **What does Acetoxy cure mean?** During the curing process from a putty-like material to a rubber-like elastomeric material, acetic acid is given off as a by-product. Acetic acid corrodes some soft metals (like brass or copper) & therefore should not be used in tandem w/ these substrates. Acetic acid has an odor similar to vinegar & is the most common of all silicone sealants sold.
- **Are these silicone sealants paintable?** Most are not. Paint will not adhere to the vast majority of silicone sealants, although there are a few “paintable” formulations of the market.
- **Can these silicone sealants be used in a submerged application?** Silicone sealants are not recommended for this type of application as over time, water will seep into the bond-line area & adhesion failure may result.
- **What is ARC Resistance?** It denotes the resistance of a material to an arc produced by a current of electricity flowing between two electrodes. Silicones have excellent arc resistance.
- **What is Dielectric?** An electrical term. The ability of a substance to resist a charge of electricity as compared to the ability of air in this regard. Silicones are excellent dielectric materials.
- **What is meant by dissipation factor?** The measure of the quality of an insulating material. The lower the figure, the better the insulator.
- **What is Dielectric Strength?** Measurement of the amount of voltage an insulative material will withstand before breaking down & losing its insulative capabilities.
- **What is meant by RTV?** Room temperature vulcanizing. Refers to the ability of a material to cure or harden to a solid substance, without the application of heat. (Most RD Silicone Sealants (except Kitchen & Bath) cure on exposure to water vapor in the air, giving off a small amount of acetic acid in the process.)
- **What is refractive index?** The amount a light beam is refracted (or bent) as it passes through a substance, as compared to water being 1.0.
- **What are silanes?** Silicon chemicals. Silicones are made from silanes by a chemical process.
- **What is surface tension?** An effect of the forces of attraction existing between the molecules of a liquid. It exists only on the boundary surface of the liquid. Silicones have very low surface tension.

- **Can RD 0896, 0897 Series Silicone Sealants be used for adhering auto & appliance trim including metal, fabric & fabric-backed plastics? Yes!**
- **Can RD 0896, 0897 Series Silicone Sealants be used for bonding gaskets in heating & refrigeration units? Yes!**
- **Can RD 0896, 0897 Series Silicone Sealants be used for sealing windows in oven doors on gas appliances? Yes!**
- **Can RD 0896, 0897 Series Silicone Sealants be used for formed in place gaskets for gearboxes, compressors & pumps? Yes!**
- **Can RD 0896, 0897 Series Silicone Sealants be used for sealing trailers & truck cabs? Yes!**
- **Can RD 0896, 0897 Series Silicone Sealants be used for sealing & bonding appliance parts? Yes!**
- **Can RD 0896, 0897 Series Silicone Sealants be used for bonding signs & sign letters? Yes!**
- **Can RD 0896, 0897 Series Silicone Sealants be used for sealing marine cabins & windows? Yes (above water line only)**
- **At what temperature does RD 0896, 0897 Series Silicone Sealants become brittle? Minus 80F (-80F) (ASTM D746)**
- **What are some key limitations of Acetoxy cure silicones such as RD 0896, 0897 Series?**
  - Will corrode or not adhere well to copper, brass (& other copper-containing alloys), magnesium, zinc & galvanized metals (& other zinc-containing alloys).
  - Not recommended for use on brick, masonry & other cementitious substrates.
  - Best adhesion & compatibility not achieved w/ substrates made of methylmethacrylate (Plexiglas), polycarbonate, polypropylene, polyethylene & polytetrafluoroethylene (Teflon).
  - Not recommended for below-grade applications or for joints with over +/-25% joint movement.
  - Not intended for structural glazing.
  - Not recommended for areas where abrasion & physical abuse are encountered.
- **What is the typical tack free time of RD 0896, 0897 Series Silicone Sealant? 20 Minutes (77 F/50% Relative Humidity).**
- **How quickly must an Acetoxy cure silicone sealant be tooled? Tooling should be completed within 5 – 10 minutes of application.**
- **How does a partially enclosed area of application effect cure time for an Acetoxy cure silicone sealant?** In applications where RD 0896, 0897 Series may be partially or totally confined during cure, the time required for proper cure is lengthened by the degree of confinement. It is possible that w/ absolute confinement, cure will not be completed. The result can be the softening of the sealant @ elevated temperatures. Curing time increases with the thickness of the sealant. A ½” cross-section may require 3-4 days for complete cure, however the cure will have penetrated the outer 1/8” in about 24 hrs.
- **What is the approximate peel strength of RD 0896, 0897 Series Silicone Sealant?** Adhered to glass, metal & most primed or painted woods RD 0896

Series RTV Silicones have an average peel strength of approximately 20 pounds per inch after 72 hrs @ room temperature.

- **What is the odor with RD 0896 Series & other Acetoxy cure silicone sealants?** The odor is caused by the liberation of acetic acid given off during application & cure. This odor disappears as the cure progresses & is not detectable after cure is complete.
- **How can the best possible bond be achieved with Acetoxy cure silicones?** Thoroughly clean & degrease metal & plastic surfaces, then rinse all surfaces except plastic, with acetone. Rubber surfaces should be roughened with sandpaper, then wiped with acetone. (Follow solvent container label precautions.) For even stronger, more uniform bonds, the application of a thin film of RTV Primer, such as Dow Corning 1200 or equivalent, is effective on many substrates, except rubber & silicone rubber. (Allow the Primer to air dry @ room temperature until dry to the touch. Instructions are provided with the 1200 Prime Coat.) (For many paints, plastics & organic rubber materials, use of Dow Corning 1205 or equivalent Primer is effective.) (FOLLOW PRIMER INSTRUCTIONS AS 1200 & 1205 ARE FLAMMABLE, DO NOT ENJOY FDA STATUS, ETC.)
- **Do Acetoxy cure silicone sealants such as RD 0896 Series contain formaldehyde?** Formaldehyde is not added as a part of the formulation; however formaldehyde vapors are formed @ temperatures above 300 F in the presence of air. (Formaldehyde is a potential cancer hazard & known skin & respiratory sensitizer. Vapors irritate eyes, nose & throat.)
- **What is the typical shelf life of Acetoxy cure silicone sealants such as RD 0896/0897 Series?** When stored in original unopened containers @ or below 90 F, RD 0896 Series Sealants exhibit a minimum shelf life of 12 months.
- **How do 100% silicone, spec compliant products such as RD 0896 Series, differ from non-spec “extended” silicone sealants?** All RD Silicones except 0706/0806 Series Speed Demon II contain 100% silicone polymers, making compliance to rigid performance specs & premium performance possible. “Extended” products contain various non-silicone additives for reduced cost, & while they may be adequate for many typical silicone applications, they are not capable of current specification compliance.
- **Do any Red Devil Label silicones enjoy NSF (National Sanitation Foundation) listing?** Yes! The RD PRO Label (0826/OI Series) is NSF Listed.
- **How do I remove silicone sealant from clothing?** This is difficult, if not impossible. There are silicone sealant removers on the market; however Directions & Precautions provided by the manufacturer should be closely followed for the remover chosen.
- **How do I remove acetoxy silicone sealant from skin?** If the sealant is not cured/still sticky, wipe the area thoroughly with a clean, dry cloth or towel before washing area with soap & warm water. Do not use any solvent. It may take 3-4 days for the entire residue to be removed, peeled off, or to wear off. Do not handle contact lenses during this time.
- **What should I do if contact lens irritation occurs after using silicone sealant?** Lens should be cleaned in the enzyme solution. Do not touch lenses until all silicone has been removed from fingers, nails & hands. Residual silicone may

remain on hands for several days & be transferred to lenses. All sealant should be removed prior to re-insertion of lenses.

Seek medical attention if irritation persists.

- **What should I do if a child or pet eats or tastes silicone sealant?** Silicone sealants are non-toxic as defined by the Consumer Products Safety Commission. The child or pet should be observed to determine that there is no digestive or intestinal blockage, which could possibly occur if the sealant gets lodged in the digestive tract. Additional information is available on the Material Safety Data Sheet for the appropriate silicone sealant, available @ [www.reddevil.com](http://www.reddevil.com) or by calling Customer Services @ 800-423-3845 or the plant @ 918-825-5744.
- **Can silicone sealant be used as a barrier for gases (Oxygen, Carbon Monoxide, etc) to keep gases in or out?** No. Silicone sealants are vapor-permeable & will not form a hermetic seal.
- **Typically how long will acetoxycure silicone sealants release an odor?** Silicone sealants outgas during cure. Most occurs during the first 24 hours after application, however depending upon the application, atmospheric conditions, etc., minimal outgassing/odor can occur for up to a week. (If the vapor is irritating, provide adequate ventilation until full cure or wear the appropriate respirator.)
- **How can I prevent silicone sealant from curing in the cartridge?** Most silicones are condensation cure products; hence the only way to prevent curing is to protect them from the atmosphere. To increase chances of squeeze tube silicone not curing, squeeze a bead of silicone into the cap prior to re-applying the cap. For cartridges, insert a nail into the hole or squeeze out a bead of silicone above the nozzle tip & wrap plastic tightly over the silicone & nozzle.
- **What colors are available in HVAC Silicone Sealant?** Clear, White & Aluminum Gray.
- **Where can additional information be found on 0896, 0897 Series HVAC Silicone Sealants?** See MSDS & TDS on this website ([www.reddevil.com](http://www.reddevil.com)).