



RED-KOTE® FUEL TANK LINER

STAYS FLEXIBLE - Will never crack or peel off.

RESISTANT TO ALCOHOL AND MOST FUEL ADDITIVES.

BRIGHT COLOR - Coverage is easily visible.

COVERS RUST - Seals old rust in and prevents future rusting.

SEALS LEAKS - Gets the multitude of pin-holes you can't find.

Low V.O.C., so it meets federal and all state regulations.

Red-Kote is a solvent-based polymer coating for lining gasoline tanks on motorcycles, cars and trucks. It has limited applications with aviation gasoline, diesel fuel, and some racing fuels. Bio-diesel, racing fuels and methanol-containing fuels/fuel additives should be tested prior to use as they may attack Red-Kote.

Red-Kote is easy to use if the directions are followed closely. It seals the multitude of small leaks that often form where the straps wrap around the tank. You fix the obvious leaks and Red-Kote seals the rest.

Contrary to what some people will tell you, rust **does** form inside gas tanks. The causes are condensation in the tank and water in the gas. Red-Kote seals light rust under the coating so it cannot flake off to plug fuel-line filters or cause engine damage. Further rusting is also reduced.

Some of the specific advantages of Red-Kote are as follows:

1. The coating is very flexible and does not crack as do some of the others. This gives the repair a much longer life. Tanks coated in 1984 are still doing well.
2. The polymer was specifically chosen because of its tight adhering qualities. In comparison to some other coatings, Red-Kote does not peel off even when the metal is bent. This protects against loosening of the coating by vibration or denting of the tank.
3. Methanol. In the U.S. the federal government allows a maximum of 5% of methanol in gasoline. Red-Kote is not affected by up to 10% methanol. Greater than 10% methanol will leech the red dye out and turn the fuel red, but the Red-Kote remains tightly bonded to the metal. Some fuel tank liners are dissolved by methanol into sticky lumps and strings that plug the fuel line. This will not happen with Red-Kote.
4. Ethanol. Red-Kote works fine with E10 to E50 mixtures (10% to 50% ethanol). Red-

Kote generally has performed well in long-term E85 testing. E85 can be anywhere from 51% to 85% ethanol depending on the manufacturer, county and time of year. Long-term testing with E95 shows some deterioration of the Red-Kote. We don't recommend higher than E85 mixtures or E100, 100% ethanol..

5. Red-Kote dries faster than many other sealers saving you time. You can reduce time further by thinning with Acetone and using two thin coats instead of one thick coat.
6. Red-Kote levels very well. You will not get a wide variation in thickness as with some other coatings.
7. Red-Kote is thicker and usually requires only one coat as opposed to two coats for many other coatings. Holes up to $\frac{1}{32}^{\text{nd}}$ (1mm) may be coated and sealed safely. Rust is sealed in so that it cannot flake off.
8. The bright red color is easily visible so you can be sure you didn't miss a spot. Some coatings are almost invisible.

Packaging: Red-Kote is available in one quart metal cans packed 9 per case or in one gallon metal cans packed 1 per case. It is backed by our guarantee and our over 70 years of service to the automotive industry.

Warranty: Damon Industries, Inc. warrants its products to be free of defects in material and workmanship as delivered in the original container. Liability is limited to replacement of product found to be defective. This warranty is in lieu of all other warranties, expressed or implied. Damon Industries guarantees the product only, not your application of it. Performance and length of service is totally dependent upon the user following the instructions exactly. Warranty applies only for gasoline tanks or diesel tanks that you have discussed with our chemist and have properly sand blasted prior to coating.

Warnings: Red-Kote is only for use lining the inside of fuel tanks containing gasoline or diesel fuel. Do not use with tanks larger than 50 gallons. Do not use with bio-diesel fuel. Do not use with racing fuels unless you have discussed your particular mixture with our chemist to find out if it will work. Do not use with water/water-based substances, especially not with potable water. Red-Kote cannot be sprayed, even after thinning. Do not use Red-Kote on fiber-glass or any plastic.

Diesel Fuel Tanks - A brand new tank intended for use with diesel may be lined prior to use. A tank that has had diesel fuel in it will need to be sand blasted prior to using Red-Kote. Diesel fuel leaves a paraffin coating inside the tank that Red-Kote will not stick to. There is no known cleaning method to remove this paraffin coating other than sand blasting. If you choose to line a diesel tank you do so at your own risk.

Motorcycle Tanks - If a motorcycle tank has custom artwork do not use Red-Kote unless you are willing to take the risk of ruining the art. Even the fumes can cause the paint to wrinkle or blister. Do not put Red-Kote or MEK into motorcycle tanks with regular automotive paint less than 30 days old. Even after 30 days be careful not to allow liquid to contact paint. **It is always best to line the tank before painting and adding artwork.**

Fuel Additives - We recommend that you do not use fuel additives containing methanol (methyl alcohol). We have had instances of methanol pulling the red dye out of Red-Kote which turns the fuel red. This has not caused any damage to our knowledge. Usually only "cheap" additives contain methanol. Good products contain isopropanol or other solvents. Most engine warranties are voided by the use of methanol anyway.

Directions:

1. Empty all fuel from the tank.
2. Remove the sending unit, float, feed lines, filters, anything that could be clogged by the liner or that is made of plastic which the liner will not stick to.
3. Remove any loose rust by tapping on the tank with a rubber mallet or by tumbling or shaking with a piece of chain in the tank. Flush out debris.
4. If there is still a lot of rust, you may use a rust remover.
5. Clean the tank with a water-soluble detergent or degreaser. Add 2 ounces of detergent/degreaser per gallon of tank capacity and fill with hot water. Allow the detergent to work for 15 minutes and then rinse thoroughly. Boilout is not recommended because the high alkalinity removes the tin from terne plate making the plating flake off. Red-Kote will not stick if the plating is coming off. Some tanks do not have this plating.
6. Any leaks larger than 1/32nd of an inch (1 mm) should be repaired by a professional who knows how to avoid an explosion while repairing a fuel tank. Soldering is the method usually used to repair leaks. Never use a torch on a fuel tank unless you have been properly trained.
7. Make sure that the tank is completely dry before continuing. This is very important. Without a blower, drying may take up to 12 hours. The use of a blower

to circulate air through the tank will cut the time to an hour or so. The fastest method is to drain the tank of water for 5 minutes and then pour 1 pint of M.E.K. or acetone into the tank, slosh thoroughly and pour out. Repeat with a second pint of M.E.K. or acetone and you are ready to use Red-Kote immediately after draining. Discard this M.E.K. or acetone safely and properly, keeping it away from heat and sources of ignition. Fumes are heavier than air and can travel along the ground to pilot lights and explode. One quart of M.E.K will absorb up to 3 ounces of water and one quart of acetone will absorb up to 5 ounces of water. If you use M.E.K. or Acetone do not use a blower because a spark will cause the tank to explode.

8. Cover all open holes in the tank by plugging or covering with tape, except the one to be used for pouring in the coating.
9. Pour one to two quarts of Red-Kote into the tank and cover the last opening. You can get by with one quart on tanks of about 12 gallons or less. We recommend two quarts for larger tanks to make sure you get the coating to flow behind all the baffles.
10. Tip the tank onto each side and slosh the coating around to completely cover the inside. Use a rocking motion rather than shaking. It is important to do a thorough job or you may miss parts of the tank behind baffles.
11. Drain out the excess coating and cover tightly to save for reuse. The best method is to stand the tank up with a corner drain hole over a can to collect the excess as it drips out. It is very important that you do not leave puddles in the tank. Tilt the tank in every direction and hold for 30 seconds to allow the liner to run toward the drain hole.
12. Open all tank openings to allow the best air flow. Air dry for 8 to 24 hours. When cured there will be no solvent smell left in the tank. If the coating is not completely cured before fuel is added the curing process will be stopped. Do not use open flame or an electric element for drying or an explosion may result. Do not blow air into the tank until at least 60 minutes of drying time have passed. Using air sooner may cause bubbles to form in the coating or cause the acetone vapors to ignite.
13. If the leaks or rust are severe, it is a good idea to use a second coat after the first coat dries completely.
14. Reassemble and install the tank on the vehicle.
15. For clean-up use methyl ethyl ketone, acetone or a quality lacquer thinner with no alcohol in it.

Do not rush the job. In many cases it will take more than one day to do a job worthy of your time.

Temperature:

(All temperatures given are Fahrenheit.)

The optimum temperature of the tank while coating is about 65 to 75 degrees. Once the Red-Kote has stopped draining out of the tank the temperature can be warmer or colder. At higher temperatures Red-Kote is thinner and runs faster so you get a thinner coat. At

colder temperatures it is thicker and runs slower giving a thicker coat. Generally warmer temperatures, 60 and above, are best. Once the tank has drained and has begun to set up, the temperature does not matter as much. Red-Kote can be applied at lower temperatures, but take extra care to make sure the Red-Kote flows behind baffles and then that the excess drains out well. You don't want puddles which will never dry completely. Take the tank and can of Red-Kote indoors to warm up to room temperature before taking them out to a cold garage to line the tank. If you have to work at colder temperatures the Red-Kote can be diluted with a little acetone or methyl ethyl ketone. Don't dilute more than 20% or 1 part solvent to 4 parts Red-Kote. Poor draining leaves puddles that may never cure completely.

Red-Kote dries faster at higher temperature and at lower humidity. Thus hot, humid air and cold, dry air cure it at about the same rate.

We don't recommend coating if the product and tank are less than 55 degrees, but it can be done down to 40 degrees if you thin the Red-Kote a little and are careful.

The colder the temperature, the longer it takes to dry. At 40 degrees it takes twice as long (2 - 4 days) as at 70 degrees. At 20 degrees, four times as long (4 - 8 days). At -4 degrees it will stop drying at all.

Tips & Hints:

Do not leave the can open to the air as it will thicken or form a skin on top. When Red-Kote is reused after pouring it back out of a gas tank it may need thinning before reuse. Red-Kote may be thinned with MEK (Methyl Ethyl Ketone) or Acetone. Do not use lacquer thinner to dilute Red-Kote.

For removing water from the tank prior to coating you may use MEK or acetone. Acetone absorbs much more water than MEK and is less expensive. Acetone and MEK are available at paint and hardware stores.

Repair shops are punching a hole in a corner of the tank and soldering in a drain-cock. This allows better draining of water and excess Red-Kote. Do not solder or weld on the tank after it has been coated. The coating will turn to ash if heated above 250°F (81°C).

Some of our customers have reported a way to speed up the process significantly. They are thinning Red-Kote about 20% with M.E.K. (5 to 6 ounces of M.E.K. per quart of Red-Kote). This allows the Red-Kote to dry in only a couple of hours in many cases. They also report that using an air blower to dry the inside does not cause the bubbles that form when straight Red-Kote is blow dried. You will get a much thinner coating. We are told that two of these thin coats still take less time to dry than one thick coat.

Red-Kote does not stick well to plastic tanks or to plastic parts inside a gas tank.

Do not coat over other coatings. Remove old coatings completely first, using MEK, acetone or other solvent. Harley Davidson produced some tanks with a gray epoxy paint inside. Over time this paint flakes off and the tank starts to rust. Solvents will not touch it. Put some steel shot or a piece of chain into the tank and shake or slosh it around to knock off all the loose pieces of coating. If you shake too hard you could dent your tank and spoil its appearance. Flush well with water and then rinse with acetone. This is not a perfect solution since the old coating could still come loose in some

places. Hopefully Red-Kote's toughness and flexibility should hold it together in any spots where the old coating comes loose. Call us if you have a problem removing an old coating.

The two most common failure problems we see are:

- 1) Not completely drying the tank of water before coating. Red-Kote will not stick to wet metal. When it dries it will peel off in sheets.
- 2) Not allowing the Red-Kote to dry completely. If Red-Kote is not completely dry or has puddles left it will form strings or flecks in the gas. These may get past the fuel filter and plug carburetors or injectors. Puddles of Red-Kote left behind baffles or in corners may never dry completely. This is because a skin forms over the puddles and prevents drying underneath. Once the skin ruptures the Red-Kote forms strings in the fuel.

With over 1 million vehicles tanks lined since 1985 we have seen less than 200 problems. All were application errors as described above. We have not yet seen failure due to ageing. Both of the above conditions are easily prevented by proper drying. All problems are correctable by stripping out the Red-Kote with M.E.K. or acetone and recoating.