

Stove Bright Troubling Shooting Guide-Tips on Repainting your Stove

Stove Bright®

Because of the high temperature involved, stove paints are formulated to be used in very particular ways. This is presented as a guide for the distributor and the dealer to determine what caused a problem with STOVE BRIGHT® stove paint in particular; however, most recommendations will be similar for other major brands.

Most stoves in the U.S. and Canada are manufactured using one of about five different brands of stove paint. As far as we are determined, most of these brands can be top coated with Forrest STOVE BRIGHT® stove paint. The one exception is the DeRusto paint contains large amount of graphite, which is oily and hard to stick to, and also contains a resin which will be "lifted" or peeled from the surface when repainted. We do not recommend repainting a stove previously painted with DeRusto without completely removing the old paint.

The two largest selling brands of stove paint are Thermalox and STOVE BRIGHT®. Years of testing have shown that either paint can be used over the other without a problem. Proper care must be used, however when repainting any stove.

Cleaning of Surface

The paint will only stick to whatever is already on the stove. If there is grease, oil, graphite, or foreign material of any sort on the surface, it must be cleaned off. Experience has shown us that Toluene or Lacquer Thinner does the best job of cleaning very oily surfaces. **WARNING** – *both of these products are highly flammable and give off vapors, which are dangerous to your health.* Obtain proper advice and use extreme care before using them, ventilate the room, use rubber gloves, and be careful!! Lacquer thinner is very flammable!! Put out all fires, turn off all appliances, even those with pilot lights. Keep lacquer thinner away from anything that makes a spark. When cleaning the surface, use clean, white rags because colored rags will bleed some of the dye onto the stove. On surfaces not quite so dirty "Paint Prep," by Forrest, is a citrus scented metal cleaner which does an excellent job of cleaning stove surfaces. In areas where solvents cannot be used, a good cleaner and water can be used. Dirtex spray cans or Windex are acceptable. Many cleaners like "409" leave an oily residue, causing more problems than they solve, do **not** use a tack cloth, as it will also leave an undesirable residue. In extreme cases it may be necessary to sandblast or sand the old paint off the stove. Remember, the object is to get a surface, which is extremely clean.

Thickness of Paint

Stoves are generally painted once at the factory. Dealers will often customize the stove to another color. Problems arise when in repainting the stove or in changing again to a third color, the total paint film thickness gets too thick. In each normal painting of the stove, about .9 mils of dry paint are applied. Peeling will occur when the total film thickness reaches 2.0 mils or higher. If the factory color is to be changed, only change it once. If a third coat is to be applied, use a sander or solvent (see the previous section on cleaning) to remove most of the first two coats.

Application Techniques

Many problems can be avoided by using some common sense in applying the paint. The average stove takes almost 2 cans. Two light coats are better than one heavy coat. The paint is pushed out of the can by the pressure of gas in the can. Caution, this gas is highly

flammable, a close relative of natural gas, and should be kept away from any spark or open flame. Use only in a well-ventilated area. The can is designed to work at room temperature. If the can is cold from being left in a storeroom or a truck at night, heat it up to 70-80°F before using. A couple of minutes under hot water faucet will usually do it. Do not get the can hotter than you can hold comfortably. A cold can will sometimes "spit".

There is a marble in the can, which is there to stir up the paint before applying. Unless the paint is stirred by shaking the can thoroughly, the paint will be non-uniform. Shake the can for at least two minutes after you hear the marble rattling around. This will insure a better paint job. This is critical when using some of the lighter colors, especially Almond. The Almond and Sand have more pigment in them than the other colors. If the Almond is not shaken well, there is more pigment and less resin on the surface than intended. This will cause the Almond to peel. The Almond or Sand which has not been shaken well appears flatter in appearance and rougher than the other STOVE BRIGHT® colors. So, shake Almond and lighter colors, like Sand, for a least two minutes. Paint should be sprayed from about 12 inches; too close and the paint will pool and run – too far and the paint will "dry spray" and appear textured.

Plugged Spray Tips

Inside the spray can there is a plastic tube which goes to the bottom of the can. The paint is then drawn into the bottom of the tube from the bottom of the can. If, in storage, any material separated in the tube, it could be slightly different from the standard paint. When first spraying an aerosol can, it is essential to spray one or two seconds onto a non-critical surface like a newspaper. This clears out the tube. Make sure your finger is not extending over the front of the nozzle. If it does, paint will collect on the tip of your finger and spit onto the stove, causing spots. "Can Guns" are available at most paint and hardware stores to depress the nozzle using a trigger. This will prevent the finger problem.

After using a spray can partially and if you intend to keep the remainder, turn it upside down and spray until colored material no longer comes out of the can. By turning the can upside down, the paint is discharged from the tube because the tube has been removed from the paint.

Curing the Paint

Most high temperature paints operate in the same way. They use a resin which dries at room temperature, giving the paint the initial properties seen on an un-used stove. Then, when the stove is burned, this air-dry resin burns away. At the same time, the silicon resin (silicone gives the paint it's high heat resistance) in the paint will not cure until it is heated to high temperatures. This occurs at about the same time the air-dry resin is burning. We have found that this "transition" takes place at about 475°F.

It takes 3 burns in the stove to cure the paint with heat. The first 2 should be at about 250°F for 20 minutes each. The 3rd burn should be at 450°F for 45 minutes. Do not burn at full heat, 900°F or more, for the first burn, as it will shock the paint. At the time of the first burn there will be a ring on the top of the stove. Within this ring the air-dry resin will have burned away, and the silicon resin has cured. Outside this ring the silicon resin is still uncured, and the air-dry resin is still there. On the ring, however, you will notice that the paint is soft - even wet. Do not touch the paint with anything (like a teakettle or trivet) while it is curing. This is where the transition happens. After the stove has been burned about three times, the entire

surface, which gets hot, will have cured, and there will be no further changes. It is important to warn your customers to ventilate the house during these initial burns. Although the smoke is primarily Carbon Dioxide, there are other components of the smoke, which make it smell bad and may physically irritate some customers. It is not toxic. We have had it tested. It is only carbon dioxide, but it displaces oxygen, so ventilate the room while curing. These problems will go away after the first few burns, depending on the duration and the surface temperature of each burn.

STOVE BRIGHT® is a little glossy when first applied. It loses some of this gloss when it is cured. This means that a stove, which has begun its cure cycle, will sometimes show a ring that is visible when curing. Often, the cured paint will look lighter in color because it is "flatter". Again, after the paint is cured, this condition will not be as visible. If this is a major problem, one solution is to use STOVE BRIGHT® #6304 Flat Black paint initially. The gloss paints have shown better scuff resistance and appearance after curing, even though the cured finish is flatter in appearance.