

STOVE BRIGHT®

USER GUIDE



FOR DEALERS, INSTALLERS, OR FOR SERVICING

Because of the high temperatures 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 have determined, most of these brands can be topcoated with STOVE BRIGHT® stove paint. The one exception is the DeRusto Bar-B-Que black. This brand causes real problems whenever it is topcoated. The DeRusto paint contains large amounts 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.

Years of testing have shown Stove Bright® paint can be used over the other brands without a problem. Proper care must be used, however, when repainting any stove.

1. 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.

2. 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.

You can usually tell why paint doesn't stick to a stove by the way the paint comes off after the stove has been used. If it peels or it looks like shattered glass and comes off in thin strips, this is caused by too much or too many coats of paint. On the other hand, if it comes off in large patches, it is usually caused by a dirty surface before painting. Rusting comes from painting over old rust, not thoroughly cleaning the surface to be painted or not applying paint thick enough in factory production to prevent rust in transit or storage.

3. 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 a 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 other light colors, like Sand, for at 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.

4. 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.

5. Curing the Paint

Most high-temperature paints operate in the same way. There are two resins in the paint. One resin dries at room temperature, giving the paint the initial properties seen on an un-used stove. Then, when fires are built in the stove, this air-dry resin burns away. The other resin is a silicon resin (silicone gives the paint it's high heat resistance) that will not cure until it is heated to high temperatures. This cross-linking occurs at around 400°F - 450°F. The air dry resin will burn away at about 600°F.

We recommend a two-stage curing process. **Do not burn at full heat** (900°F or more) for the first two burns as this could "shock" the paint and cause failure. The initial fire should be medium temperature (450°F) for about 60 minutes. As the paint heats it will soften, even appear wet, and must not be touched with anything. Gradually, at the hottest spots, the paint will again appear dry. When this process is complete, the paint will be ready for the next stage.

A second, hotter burn of around 600°F for another 45 minutes will burn away the air-dry resin. You will know when this occurs because the process creates some smoke and odor. The non-toxic smoke is primarily Carbon Dioxide, but there are other residual components that make it smell bad and may cause physical distress for some individuals or animals. It will also displace oxygen, so we recommend a "ventilate and vacate" procedure which calls for open windows and fans during the burn-in process. Until the second stage is reached, the curing process will be incomplete and may be a smoky annoyance at a later time.

Stove Bright® may appear to be a little glossy when first applied. The application of high heat (as described above) will cause all liquid paint to lose any appearance of gloss and become flat. Metallic colors sometimes appear to have some gloss due to the metallic fleck in the paint, but are still flat.