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manufacturers of



## **Aseal 518/519 & 598 Application Guidelines**

### **Cleaning**

All surfaces should be thoroughly cleaned and free of oil, dirt, grease and other contamination using a suitable degreasing solvent or by degreasing at 650 degrees F..

### **Pretreatment**

All metal surfaces to be coated should be pretreated by abrasive blasting using 120 to 180 mesh aluminum oxide grit. Where a very smooth finish is required, 180 mesh should be used. After grit blasting, parts should be cleaned of any residual grit and dust using an air blast that has been filtered to remove all oil and other contamination from the air.

### **Handling**

After pretreatment, all parts should be handled with clean non contaminated disposable gloves.

Parts should be coated as soon as possible after pretreatment and preferably within 4 hours after blasting. If this cannot be accomplished, parts should be wrapped in clean non contaminating paper such as kraft paper and any openings sealed with tape.

### **Spray Equipment**

These coating compounds are relatively thin. Most standard paint spray equipment that will produce a fine atomization can be used; hard to reach areas can sometimes be more easily coated using a small touch up gun. Pressure feed or suction systems can be used. If spraying on a large production basis it may be advantageous to use a recirculating spray system to keep the aluminum in suspension. For most jobs, we recommend the DeVilbiss EGA-503 touchup gun or the larger JGA series.

This material is acidic in nature and although it is buffered and will generally not attack steel surfaces, for high production use we recommend stainless steel for nozzles, needles, recirculating pumps, lines, and storage tanks. Magnesium, galvanized, and cadmium plated materials should **not** be used as these materials will be readily attacked by the coating compound.

### **Mixing of Aseal Materials**

It is important that all Aseal materials be mixed adequately prior to application. This is especially important for the basecoats (Aseal 518, 519, and 500) since they contain aluminum powder which can settle during transportation and storage. The best method of mixing is to use a mixer that fits through the neck of the bottle (contact us for possible suppliers). Other methods are rolling or shaking. Either of these can cause bottle breakage if not supported properly. Often, rolling is not aggressive enough to thoroughly disperse the aluminum powder back into the mixture.

The Aseal 598 sealcoat is a two component mixture and must be mixed at a ratio of ten parts by volume of Part A to one part by volume of Part B. The combined product has an absolute pot life of 8 hours, but provides the smoothest and most uniform appearance if used within 2 hours of mixing.

### **Coating Application**

Aseal 518 & 519: We recommend a minimum of 1.5 mils DFT. In some instances where close tolerances must be held, the coating thickness may have to be applied at less than 1.5 mils. This should be the exception rather than the normal application. However, for optimum protection 2 to 4 mils DFT is preferred.

If optimal coating smoothness is required, it is recommended that the spraybooth be temperature and humidity controlled. Ideally, the conditions should be 70-75° F. and 60-70% relative humidity.

It is recommended that a light "mist coat" should be applied and then allowed to flash off. Then apply a "wet coat" and allow that coat to air dry until a matte gray color. If the humidity is very high in the drying area, it is possible that the coating will not air dry to a matte gray finish. In this case, it would be necessary to dry the parts in an oven at about 100° F. to achieve the matte gray color.

After air dried, parts should be placed in an oven at 175° F. and dried for a minimum of 20 minutes, then cured at 600-650° F. for a minimum of 30 minutes. It is possible to cure at 400° F. for 3 hours if the substrate will not tolerate the higher temperatures. If multiple coats are to be applied to achieve the desired DFT, apply second coat **immediately** after parts are cooled to prevent possible contamination. Repeat procedure from first coat.

### **Post Treatments**

For maximum corrosion protection, these coatings should be made electrically conductive using a suitable burnishing method such as grit blasting, glass beading, tumble burnishing, or post curing at 1050° F. for a minimum of 90 minutes. The post treatment method selected should depend on the final use of the part and the most economical way of producing a conductive surface. If the coating is not made conductive through one of the above mentioned methods, the coating will have poor performance with regards to corrosion protection.

Methods of post treatment if no sealcoat will be applied:

When parts are burnished by dry grit blasting or by glass bead blasting, an air pressure of 25 to 30 PSI should be used with a suction type blast cabinet and 5 to 10 PSI with a pressure blast cabinet. The coating should only be peened long enough to produce a conductive finish. Using light pressure with probes of an ohm meter held 1" apart, a reading of 10 ohm or less should be obtained. For applications where an extremely smooth finish is required, tumble burnishing is preferred.

Methods of post treatment if sealcoat (Aseal 598) will be applied:

The application of Aseal 598 serves the following purposes:

1. To provide a smoother surface finish.
2. To retard the sacrificial properties of the aluminum, thereby extending the corrosion protection of the coating in salt environments.

For optimum results Aseal 598 should be applied over a grit blasted post treated surface using a 240-320 mesh aluminum oxide grit. The finer grit will provide a smoother surface.

After the surface has been grit blasted and checked for conductivity, the seal coat is applied using the same spray equipment used for Aseal 518, and 519. However, the gun should be adjusted to produce an even, fine and well atomized spray resulting in a thin but wet, glossy appearing surface. It is better to make several passes with the spray gun to produce this surface in order to apply the sealer as uniformly as possible and to avoid a blotchy appearance. When dry, the coating will be only 0.1 to 0.2 mils thick. If the sealer is applied too heavy it will produce a dull surface appearance which can be easily scratched.

Runs and sags should be immediately washed off and surface should be dried and recoated.

After the sealer has air dried for a minimum of 20 minutes, it should be placed in a drying oven at 175°F. for a minimum of 20 minutes, followed by a cure at 600-650°F. for a minimum of 30 minutes. The sealer may be cured at 400°F. for 3 hours if necessary.

If the appearance of the sealer is not uniform or if better smoothness is desired, the sealer may be grit-blasted back down to the basecoat using the same method of preparation as before applying the sealcoat (i.e. If 320 mesh aluminum oxide at 25 psi was used for the burnishing step, then the same should be used to remove the sealer.) A second coat of sealer may then be applied, following the same steps as for the first coat. This second coat will provide a smoother and more uniform appearance.

**Note:** Since these coatings are used by various specifying agencies there may be reasons for deviation from the procedures outlined herein. In all cases, the specification of the specifying agency should be strictly and completely followed and take precedence over any other application data.