



ZyClear™ Application Instructions



Review Safety Data Sheet – Prior to start of storage, handling or use of ZyCoat products review product Safety Data Sheets in detail.

ZyClear™ high temperature clear coat formulation clear coating withstands thermal cycling surface temperatures of up to 1200° F (over 2100° F ambient) with minimal loss in gloss.

“Getting Ready to Apply ZyClear™”

All ZyClear liquid products must be shaken to ensure that all components of the formulation are reincorporated. This information is contained in the Fact Sheet for each ZyClear product.

To view Technical Data Sheets and other **ZyCLEAR™** Technical Literature, please scan the QR code on the containers or visit our website <https://www.ZyCoat.com>

Substrate Preparation - Direct to Metal or as Topcoat on other Coatings?

When applying direct to metal:

ZyClear is a thin-film coating with an average thickness range of between 6 to 10 microns. As a result, applying it over a metal surface with porosity (such as a casting) and a surface profile itself equal to the maximum thickness of ZyClear will result in an inconsistent finish and look due to the light reflecting off the uneven, porous surface. Therefore, if you intend to apply direct to metal, surface treatment is important.

When applying direct to other coatings:

ZyCLEAR is game-changing in many ways, one of which is its outstanding adhesion to so many kinds of substrates including all types of plating, powder coatings, metals, or other organic finishes without having to mechanically etch the coating surface; even when the coating you want to apply over is fully cured. ZyCLEAR's primary requirement for adhering to another coating is for that surface to be clean. Some coatings containing Silicones can be more difficult to coat over and require different pretreatments. If you have a case like this, please call us (913) 599-2600 so we can assist you with each case.



Cleaning:

When applying direct to metal:

1. In all cases, ZYCOAT™ products should be applied over clean substrates. Normal industrial practices, such as chemical washes or solvent cleaning and degreasing provide a good starting point. We recommend solvent cleaning the surface using ZyClean (Part #'s 15108 or 15116) as it is compatible with the ZyClear formulation.
2. When coating a part that has already been used in service, we suggest preheat the part to a minimum of 450-500° F for 1-hour before surface cleaning and preparation is done. This will carbonize most of the impurities whether on the surface as well as those that have worked their way into the pores of the metal.
3. Inspect the parts for dirt, rust, mill scale, paint, etc. After cleaning the surface with ZyClean, the metal should be handled with gloves. Often fingerprints can contaminate the surface and be seen after the next step (below) as well as in the final finish. Likewise, residual oil often leaves stains on the surface that can affect the adhesion of the coating later.

When applying direct to other coatings:

1. **NOTE:** ZyCLEAR has been successfully used to coat over various types of coatings including anodizing, powder coatings, nickel, plated and various urethane based and other automotive paints. However, it is recommended that you do test spots first before coating the entire surface/part to ensure compatibility.
2. **Surface Prep:** Clean the surface with ZyClean as noted above. Most coatings will withstand cleaning with ZyClean. Wipe down the surface thoroughly to make sure it is clean. Assuming the part is clean, run a test spot again, before proceeding with the rest of the part.

Preheat – This applies only to coating over porous or heavy used metals.

Most parts that are formed, cast, machined, polished, or any other process where lubricants, waxes, and other additives are used. These products often become compressed into the pores of the metal (especially formed or cast metals) and although it might look clean, these contaminants can still be in the pores. As a result, we recommend that you preheat these parts to 450-500° F. Other areas to watch for are any sharp corners and edges, and all welds and joints.

As a result, in most cases we recommend preheating the metal substrates to a minimum of 450° F for 1-hour. The preheating process brings to the surface all but the contaminants with temperature resistance over the preheat cycle.

Mechanical Surface Preparation – The decision for any kind of mechanical surface prep work is somewhat dependent upon the look you are trying to achieve when finished.

With ZyCLEAR, the transparency will show the visual appearance of whatever mechanical surface prep is done to the surface below it. So, if you do a grit blast with aluminum oxide for example, the final appearance will look grey. You can lighten this grey by going back over the profile with glass bead which will round the sharp edge profile created by the aluminum oxide media. Or, you can go with only glass bead.



NOTE: When applying direct to stainless steel, titanium, aluminum or polished metal, you are only trying to clean the surface of the carbonized contaminants. Clean thoroughly with ZyClean and allow the cleaner to flash off typically in 15 minutes. When applying ZyClear to the component – you may notice a “rainbow effect” in the coating. This is an indicator of polish or wax remaining on the surface of the component. Simply re-clean that area with ZyClean, allow it to flash off and then reapply the ZyClear.

Not Recommended: Other forms of mechanical etching such as wire brushing, Scotchbrite™ or hand sanding usually results in an inconsistent mechanical etch (depth in the metal) on the surface. This may not only result in an undesirable appearance, but the inconsistent depth of the profile may be more than the thickness of the coating.

Preventing Rust

Since steel and iron rust rapidly after grit blasting, coatings should be applied immediately after media blasting, especially in high humidity climates.

When applying direct to other coatings:

No mechanical prep is required, only solvent clean as noted earlier herein.

Coating Application

When applying direct to metal:

Manual Spray

ZyCLEAR sprays like an automotive clear coating except it is less viscous/thinner at 6-10 microns. Therefore, it is more susceptible to runs if applied too thick.

With a conventional cup gun, the normal distance from the gun to the part is 4-12 inches (10-30 cm). Recommended spray equipment is either conventional, HVLP or airbrush with a 0.8 tip.

Wipe-on Application

Wipes:

We recommend ZyCoat low-lint, additive-free wipes (part #15100) like those included in the ZyClear application kits. An alternative is Dupont-Sontara Aerospace Wipes. These are recommended because they stand up to the more aggressive solvents without falling apart, and low lint which makes them less susceptible to causing coating defects caused by lint that falls off into the coating while wiping. Be sure to see our (future) You Tube video for further training and tips.



ZyCoat Lint Free Wipes (#15100)



Sontara Aerospace Wipes



Wipes: Application Instructions

When applying ZyClear to any surface, initially you may see it being absorbed into the surface if there is any porosity. When you see the surface developing a “wet” look, that is the saturation point and from there you should lightly go over it in a uniform direction to provide a consistent look. As you are applying it, if you see any spots where the wet look has gone away before the rest of the surfaces around it, that can be an indication that those areas are:

- More “porous” than the metal around it. Meaning more coating needs to be worked into that area by massaging that area more with your application lint free cloth. If it is due to the porosity, you will see that area start to fill in with the coating.
- Contaminants on the surface. In this case, if continuing to work the coating in the area(s) to overcome porosity isn’t working, it may mean there are contaminants still on the surface. If allowed to cure this way, the finish will have what is called “fish eyes” or “rainbow effect” in the finish. The best way to get rid of them is with reclean with ZyClean and then reapply ZyClear to that area.

CURE: Air Cure only on all substrates

ZyClear is a 60-minute room temperature cure. ZyClear requires no oven or elevated temperature to cure.

Safety Precautions

Refer to the SDS sheet before use.

Warranty

ZyCoat, LLC warrants our products to be free of manufacturing defects in accord with applicable ZyCoat, LLC quality control procedures. ZYCOAT, LLC. is the exclusive Licensee for the marketing and distribution of the ZyClear formulation for Dyna-Tek. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price of the defective product as determined by ZyCoat, LLC. ZyClear is patented. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY ZyCoat, LLC, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

ZYCOAT’s ZyClear™ coating technology, developed and patented by Dyna-Tek, LLC. was formulated specifically for the high-temperature automotive and marine after-market to provide a gloss, clear coating capable of withstanding the chemicals, high temperatures and overall conditions under the



hood. ZyClear is rated for surface temperature thermal cycles up to 1200° F/650° C and over 2100° F/1150 C ambient, far in excess of automotive engine and exhaust temperatures.