



Application Instructions

When using ZYBAR professional grade coatings, always use safe industry practices.

All personnel handling and/or using ZYBAR should be trained on all industry safety practices, laws and other regulations. Including but not limited to:

- Protective clothing, safety glasses, protective breathing equipment,
- Complete review and understanding the contents of the Safety Data Sheet (SDS) for ZYBAR.
- Spray booths which comply with all local and federal laws, regulations and safety requirements.

Surface Preparation (REQUIRED)

****** GLASS BEADS ARE NOT AN EFFECTIVE MEDIA FOR PROPER SURFACE PREPARATION ******

Throughout the application process, make sure the substrate surface is clean and free of all contaminants including but not limited to oil, grease, dirt, fingerprints, drawing compounds, surface passivation treatments and other sources of contamination which can cause coating adhesion failures as well as cosmetic blemishes.

Blast profile



Aluminum (untreated) & Steel

1. Media Blast is REQUIRED first step in all applications
2. Remove all rust, mil scale, and any other forms of oxidation products.
3. Blast metal surface.
 - a. Blast profile of .0025 to a maximum of .005 (.5 mil)
 - b. Suggested blasting media. Clean 100 to 120 grit aluminum oxide, garnet sand or other blast media designed to etch metal surface at 90-100 psi.
4. Ensure that the substrate is free of all media, dust and any contaminants through the use of clean compressed air.
5. Spray immediately after blasting to prevent surface contamination.

NOTE: Metal fabricated tubing/exhaust systems have varying levels of quality, porosity, welding, fabrication and other variables can influence the cosmetics, adhesion, and performance of the coating. Likewise, the design of the final fabricated parts can influence the outcome of the coating application as well. Ex. If there are components bolted on, areas of the metal fabrication creates areas where the cleaning/blasting cannot reach; this can hold oils and other impurities which are not released until the high temperatures of cure or operation are reached.

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Blast profile (continued)



Cast components

1. When preparing Cast formed components we recommend pre-baking (often referred to as “outgassing”) the component at 250°F to 300°F for up to one hour to bring the oils and other contaminants out of the porosity of the cast part.
2. Remove the component from the oven allowing it to cool to the touch and wipe it with MEK, CBac or similar solvent (No mineral spirits or naphtha solvents) to remove surface oils
3. Media Blast is REQUIRED first step in all applications
4. Remove all rust, mil scale, and any other forms of oxidation products.
5. Blast metal surface. Blast profile of .0025 to a maximum of .005 (.5 mil)
6. Suggested blasting media. Clean 100 to 120 grit aluminum oxide, garnet sand or other blast media designed to etch metal surface at 90-100 psi.
7. Ensure that the substrate is free of all media, dust and any contaminants through the use of clean compressed air.
8. Spray immediately after blasting to prevent surface contamination



Stainless Steel – or – Prior Ceramic Coated Components:



1. Media Blast is REQUIRED first step in all applications.
2. Remove any surface contaminants from the component.
3. Blast Stainless surface.
 - a. Blast profile of .0025 to .005 (.5 mil) may be required
 - b. Suggested blast media due to hardness of stainless is chilled iron grit 80 -120 grit at 100 psi or above. Chilled iron grit can leave iron dust on the part. You should wipe it clean with Acetone after blasting.
 - c. Blast to rough etched surface
4. Blow off the component after blasting to remove all media, dust and any contaminants through the use of clean compressed air.
5. Spray immediately after blasting.

Tip: If you do not possess the ability to do in house MEDIA BLASTING equipment or capability we suggest taking your components to your local automotive paint shop or powder coater for surface preparation. Provide your local shop the specific blast method detailed above with your order.

Mixing and dispensing the coating material:

1. Temperature of the coating should be at 65°F to 80°F prior to using.
2. Shake the can well and then mix well before using. The ZYBAR incorporates ingredients which can settle when left sitting for more than 20 minutes; it is important to stir using mixing sticks, focusing on any corners or bottom edges of the container.

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3. Follow hand-mix with a mechanical paddle mixer, or shaker, if one gallon size or larger.
4. If the ZYBAR has been in storage for an extended period, more mixing/shaking may be necessary as you spray the component.
5. Filter the coating using fine (100) mesh paint strainer while pouring ZYBAR into the pressure pot or paint cup. Filters are readily available from most retail home paint stores.
6. If the can should sit idle for longer than 2 minutes shake the can again to insure the solids remain dispersed in the coating.
7. NOTE: Always re-seal the containers holding the remaining, unused ZYBAR immediately after dispensing. This not only keeps the solvents from evaporating, but better protects against airborne contaminants.

Application:

ZYBAR coating can be applied to both the inside and outside substrates of exhaust systems components to provide increased corrosion protection and heat management. *Application Tip: Shake or agitate the coating every 60-120 seconds throughout the spray application process to prevent settling of the solids in container or spray gun reservoir.*

Interior substrate application

1. Follow the instructions noted above regardless of interior or exterior components and substrates of parts.
2. Metal temperature should be 65°F-80°F.
3. For components such as tubing which cannot be easily sprayed, ZYBAR can be applied in a manner which flows over the surfaces. For components such as headers, or manifolds ZYBAR can be applied as follows:
4. Utilize a flexible hose/wire with jaw clasp at one end (Tool Grabber).
5. Select clean cotton “buffing ball” and use jaw clasp to hold.
6. Dip the cotton ball into ZyBar cup and allow it to soak up coating thoroughly.
7. Pull the ball through both ends of each port on tube or header
8. Dip the ball as needed to keep ball wet with coating (very light drip)
9. Hang the component and allow the coating to dry
10. Use a non-cling rag wetted with MEK, Acetone or other like solvent to remove any drips or excess coating that should drain out of the tubes
11. Due to the difficulty with geometries of the component it will not be possible to ensure 100% consistent coverage. We have found this process to be the most thorough with ZYBAR.
12. An alternate method of coating the interior of tube or headers is:
13. Follow the instructions noted above regardless of interior or exterior components and substrates of parts.
14. Metal temperature should be 65°F-80°F Alternate application method to coat the interior of headers:
 - a. Prepare to pour ZYBAR in one end by sealing off all other openings except the planned point of coating entry. Sealing can be done using commercially available silicone plugs, tape and other materials.
 - b. Pour a suitable amount of coating material into the unsealed opening.
 - c. Then seal the “pour” opening.
 - d. Gently rotate the tubes/manifold to permit the coating to flow over all interior surfaces.

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- e. Due to the wide range of manifold geometries and configurations, fully ensuring that adequate coverage has been achieved is not possible. Thus, the greater the number of angles of rotation that are used, the greater the probability of full coverage.
 - 15. Drain the manifold or tubular item. NOTE: Be sure to pour out the coating used on the inside surfaces into a second container for disposal later. Cross-mixing of the “virgin” ZYBAR can cause problems.
 - a. Just as in the application of the coating, it is important to fully rotate the pipe/manifolds in numerous angles so as to avoid trapping any coating in recesses. If this happens, the added coating thickness in these recesses will result in the coating “mud-cracking” once it cures.
 - b. Hang the internally coated part so as to allow for continued uniform draining, until it is dry to the touch.
 - c. Use a lint free cloth or toweling wetted with MEK or similar solvent (No mineral spirits or naphtha solvents) to remove any coating that has gotten onto the exterior surfaces, before it dries.
 - d. Note: Saving the leftover material in a sealed container for future use is not recommended.
- DISCLAIMER: Good coatings do not overcome bad surface preparation or application.



Coating of the Exterior surface:

- 1. Metal surface temperature is at 65°F-80°F
 - 2. Repeat “Mixing and Dispensing” instructions.
 - 3. Low pressure 30 PSI conventional spray paint equipment.
 - a. Set gun setting so as to achieve wet film build coating thickness of 2.5 - 3.5 mils.
 - b. Fine nozzle tip size: (example:.08 to 1.0 mm or similar)
 - c. Use a low air pressure setting approx. 28-30 PSI
 - d. Wet thickness of 2.5 - 3.5 mil is appropriate.
 - 4. Spray booth or work area humidity should be moderate when applying the product.
 - 5. Subtle airflow through the spray booth or work area is best for proper spraying and limits waste through air filtration system.
 - 6. Hang part in a manner that allows the applicator easiest access to all surfaces.
 - 7. Keep gun nozzle 3” to 6” from the surface of the part.
 - 8. Throughout the process (every 60 – 120 seconds) shake the sprayer to allow the solids to remain dispersed in the spray reservoir.
 - 9. Start in recessed areas or joints first and then work out to more open and straight surfaces. This will prevent excessive build-up or “mud-caking” of the coating
 - 10. Allow the coating to flash off, and dry to the touch
 - a. Dry time can vary based on booth temps, humidity and other environmental conditions. Dry time to touch should be within 2 hours under ambient 60-80 degree temperature and less than 70 percent humidity.
 - b. Do not accelerate dry time with heat until the coating is dry to touch. Air movement and temperatures up to 100 deg. F is acceptable after the flash-off has completed (coating no longer looks wet or moist).
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Curing of the coating:



ZYBAR can be cured either by ambient air or oven:

- **Air Cure** - Allow the part to continue to be at ambient temperatures of 70 to 90°F for approximately 5 days (120 hours), the coating at this time is ready to be put into use.
**** NOTE When Air Cure method is used we recommended when placing the coated component in service for the first time, allow the vehicle to idle for a minimum of 10 minutes allowing the component surface to ramp up to normal operating surface temperatures.*
- **Oven Cure** - **Once** the coating is “dry to the touch” the part can now be placed into a paint curing oven at 450°F for 120 minutes.

*****NOTE: After the coating has cured either by air or oven and once placed in service, the first time the component surface operating temperature reaches 650 degrees F it will likely cause the coating to smoke for a short period of time (20-40 seconds), this is the normal final stage of the cure process.*

Disclaimer

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of ZyCoat, LLC. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your ZyCoat, LLC representative to obtain the most recent Product Data Information and Application Bulletin.

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. 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. ZyBar 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.

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