
Specifications for Applying WB Protective Coatings onto METAL Substrates



A. Suitability to Application

Refer to and read the MSDS on this product. This is a water-borne high performance fluoropolymer product that is suitable for use as an industrial strength protective thin film sealant. It will adhere to a variety of substrates and is ideal as a chemically resistant barrier against damaging corrosion.

Fluorolast WB coatings are fluoropolymer-based latex dispersions with extraordinary performance characteristics in some of the harshest environments. Depending on conditions, they are able to withstand temperature extremes of from -40° to those in excess of 400° F. In addition, they will offer superior protection against hundreds of corrosive chemicals of the kind found in industrial environments (see Chemical Resistance Chart).

B. Equipment

1. For best results, use "air-assist" or conventional spray equipment to apply Fluorolast coatings onto metal surfaces. While air atomizing spray equipment (cup gun) may also be used; brushing, squeegee-ing, or rolling the coating onto the surface is NOT approved or acceptable.

2. Special protective clothing may be optional when applying Fluorolast coatings. Customary measures such as goggles and a simple breathing apparatus (to filter suspended particles from entering the nose and mouth) are recommended. The coating is not normally an irritant to skin. See the MSDS on this product.

C. Surface Preparation – no primer

When WB100 and WB200 series coatings are used where high service temperatures (150° – 400° F) will be involved, a primer is not recommended. Prior to commencing coating application, the surface of the substrate should be cleaned to remove contaminants such as oil or grease (solvent washed) and then sandblasted (if necessary) to a white metal finish in accordance with NACE specification #1 with a 1 – 2 mil profile (i.e. light grit sandpaper).

D. Surface Preparation – using epoxy primer

When WB100 and WB200 series coatings are used for applications where service temperatures will remain low (50° - 150° F), the company recommends the use of a quality epoxy primer prior to the application of the Fluorolast WB. Surface preparation:

Follow the epoxy primer manufacturer's instructions with regard to all facets of successfully applying its primer coating including:

1. Suggested surface preparation, cleaning, and profile.
2. Minimum and maximum temperatures for application.
3. Primer thickness recommendation, drying and cure time, suggestions/procedures for top coating.
4. All other pertinent specifications of each respective manufacturer.

In addition, in areas where surface preparation of the substrate cannot be done as per the above, there are primer/sealer products on the market (epoxy-based) that can be used on such less-than-ideal surfaces prior to application of the Fluorolast WB coating. Contact Fluorolast for details.

E. Application of Fluorolast WB Coatings

As called for by the type of application, the Fluorolast coating will be either from series WB100 or WB200. Either way, do NOT add water or any other ingredients of any kind to Fluorolast coatings, as that will negatively affect the delicate balance of their formulas.

Dependent upon the type of application involved, Fluorolast may make a recommendation as to the optimum dry film thickness (dft) of the protective coating required. Apply as follows:

1. For best results, atmospheric temperature conditions as well as surface temperatures of the substrate should be at least 70° and up to 120° F. (See No. 6 for coating at higher temperatures.)
2. Surfaces not to be coated may be shielded or covered (tarp, plastic, etc.) to reduce potential over-spray contact. However, due to the "dry fall" nature of the coating, surfaces of objects in relative proximity may only receive a harmless dusting of dry particles with no appreciable adhesion capabilities.
3. The two-component Fluorolast WB coatings are delivered with a pre-measured catalyst (in a small, separate container). The catalyst should be added about 10 minutes prior to the intended application of the coating and stirred (not shaken) thoroughly prior to use in order to achieve uniform coating dispersion.
4. Using air-assisted or conventional spraying equipment, both Fluorolast WB coatings should be applied in multiple passes onto the prepared surface. It is imperative that the coating NOT be applied too heavily per pass to avoid problems with runs, drips, and water entrapment within the coating. In an environment with less than ideal conditions, too heavy an application can result in the formation of blisters and ultimate coating failure.
5. As with any other coating, drying time projections are dependent upon variable conditions such as: atmospheric

temperature, relative humidity, wind speed, direct sunlight, etc. Under less than ideal conditions (minimum atmospheric and substrate temperatures, high RH); spray on Fluorolast WB coatings in a manner that will produce only about 1½ mils wet thickness per application. This will result in about a 1-mil dft (dry film thickness), which may be attained in about 30 minutes or less. In room temperature applications, applying the coating too thickly for conditions could make necessary a much longer drying time (an hour or more) before re-coating.

6. In the most IDEAL environment with warm air temperatures and a warm or even hot substrate (120°F – 160°F to touch), an experienced applicator may be able to spray apply and build the Fluorolast WB more heavily via more passes of the spray gun. Caution: This advanced procedure can be successful only when great care is taken. When done properly, however, the desired dft may be achieved in less time by reducing the number of coating applications necessary.

a. Under the above conditions, Fluorolast WB may be sprayed repeatedly onto the target substrate. Here, as many as two, three, four or more passes of the Fluorolast coating hit the substrate. Each continuous pass will appear to dry almost on impact to a DULL finish. Each pass also causes the substrate to cool.

b. CAUTION: When a spray pass is made which results in a “wet” or “shiny” finish, then STOP! The substrate has now been cooled to the point that to continue applying coating could result in water entrapment and ultimate failure. It is now imperative that this section be allowed to dry to the touch before additional coating is applied using this same procedure. To repeat this procedure, the substrate’s surface temperature must again be very warm or hot as it was before.

7. After the coating has been allowed to dry to the touch, (and depending upon which of the above two application methods were used) the second and subsequent coats may then be applied in the same respective procedures until the desired film thickness has been achieved. (Additional passes is probably not necessary if the procedure in No.6 above has been done.)

a. Thus, in a worst case scenario; for a dry film thickness of 10 mils of Fluorolast; the coating procedures under the “less than ideal” conditions may require as many as 10 individual spray applications.

b. Conversely, when more ideal conditions are present along with a very warm or hot substrate, the amount of application passes and associated drying times between them can be reduced. Similarly, the amount of time involved in the coating process would be significantly less. However, it should be emphasized again that this method (described in No.6 above) should be attempted ONLY when the surface temperature of the substrate is suitably elevated and then, only by an experienced applicator.

8. DFT of the Fluorolast coating can best be measured with an electronic thickness gauge.

9. The Fluorolast coating may be applied around penetrations such as pipes, drains, pumps, and tank bases to provide chemical protection in these areas also. For this reason, it is recommended that whenever possible, a fluoroelastomer caulk or extrusion be utilized where expansion joints, cracks, or where application of coating would not otherwise suffice. The Fluorolast coating will normally adhere to these materials very well and, also help form a seamless barrier of protection against corrosion.

10. The Fluorolast coating should be applied at sufficient and uniform thickness through out the surface area to be coated to insure the successful performance of the coating. As mentioned above, Fluorolast will make recommendations as to the optimal dry film thickness for each application in advance.

11. Be continually vigilant with regard to maintaining a clean, dry surface both prior to and during application of the coating when, due to work conditions, the work area could become susceptible to dust or other contaminants. These must be removed prior to the initial coating application by wiping the surface with a suitable damp, lint-free cloth. Similarly, if it is necessary, the previously applied Fluorolast coating may simply be wiped clean prior to subsequent coating applications.

12. If it becomes apparent that the workday will end without completion of the application project (with regard to achieving desired dft); it would be advisable to finish the current coating pass over the entire project substrate in order to assure uniform dft to that point. Afterwards, upon returning to the work site to continue the application process, it is recommended that you take care to inspect that the surface still remains free of contaminants and dust before commencing with additional coating applications.

13. Depending upon conditions during application, Fluorolast WB coatings will remain receptive to multiple coats prior to full curing. However, it is not desirable that subsequent applications of coating for achieving dft be applied over cured or nearly cured coating without adequate surface preparation.

14. In very warm or hot environments – or where the coating is subject to direct sunlight – there is a likelihood of significant increase in the speed of the cure process. Thus, when these conditions present themselves; consider dividing the entire project area into smaller individual sections which, could then be more readily brought to desired dft in a reduced timeframe.

15. Take care to prevent contamination of the newly-sprayed, uncured surface during the application process itself by protecting the substrate against dust, solvents, and other undesirable impurities prior to its receiving its final coating application.

16. All solvents should be stored outside of the area to be coated so to prevent the possibility of contamination during the application process.

F. Clean Up Procedure

Personal clean up is done with warm water and suitable detergent for washing followed by a warm water rinse. Cleaning of tools and spray equipment is similarly easy with this method. If the coating has been allowed to dry for a long time on (or in) the spray gun equipment and can no longer be easily removed with soap and water, Acetone or MEK will work well.

G. Cure Time of Fluorolast WB Coatings

1. The Fluorolast WB100 is designed and formulated to be force-cured with a temperature of 200°F minimum for one hour. For even better results, use 270°F for one hour. For *extreme* service conditions, you may follow either of these with an additional “post-curing” process @ 400°F for another hour.

2. While these processes are typically done in an industrial oven, certain conditions (i.e. areas of very warm or hot temperatures within industrial plants) exist which may actually duplicate this condition for metal substrates. In the absence of “natural” heat, the area of the substrate may be enclosed and heated in order to create a force-cure environment.

3. Under normal circumstances, the ambient-cure coating formula Fluorolast WB200 will cure after approximately 5 to 7 days from the end of application. Again, as with any other coating, ambient cure time projections are dependent upon variable conditions such as: atmospheric temperature, relative humidity, wind speed, etc. Direct sunlight on a very warm or hot day could cause the coating to cure over a period of several hours time.

H. Maintenance of Fluorolast WB Coatings

1. Care should be taken not to perform activities on the coating before it has been fully cured. Similarly, if solvents or other chemicals are to be used in the coated area, be sure they are compatible with the chemical resistance of the Fluorolast coating as originally intended.
2. Hot work (blow torch, welding) should not be performed in coated areas unless a heat blanket is used to protect the coating. Fluorolast coatings are formulated to minimize hazards from "hot" acids and chemicals; not against contact with super high temperature sparks and cinders.
3. Fully-cured Fluorolast coatings are designed to withstand normal operating conditions as discussed with your Fluorolast representative prior to application. If conditions other than those discussed do arise, please contact Fluorolast before attempting to address those conditions.

I. Repairing Damaged Fluorolast WB – small areas

1. In case of damage after the Fluorolast coating has been installed, the coating may be normally repaired with the application of additional coating onto the affected area. By properly preparing the surface and following the procedures already discussed in Section E, the coating will bond to itself.
2. Use a clean cloth and Acetone to wipe the damaged area to clean and "liven" the surface of the coating. Next, spray on

consecutive coats of Fluorolast via the previously described procedure above.

J. Repairing Damaged Fluorolast WB – large areas

If a larger area of Fluorolast coating becomes damaged, the company should be made aware of the situation. Any major repairs should be discussed with and approved by Fluorolast in advance.

K. Coating Storage and Shelf Life

The two component WB latex series have a shelf life of six months. However, after the introduction of the catalyst, pot life is then about 10 days for the WB-200 and 20 days for the WB-100 – depending upon conditions i.e. temperature, etc. present. Contact Fluorolast for further details.

Due to the high solids content of this product, WB coatings must be agitated weekly while in storage. The easiest way to accomplish this is to (with the lid fully secure) periodically turn the container over (upside down) and allow it to rest on its top (i.e. for a few days or a week) – then back on its bottom (right side up). Repeat this procedure at regular intervals. This allows the solids to remain dispersed in the water and prevents settling and compaction.

L. Contacting the Company

Fluorolast is available to assist you when you encounter questions involving the application and use of its protective coatings. Please refer your questions and requests for information to us by phone during regular business hours at (800) 785-3601. You may also contact us by fax or e-mail. Our WEB site address will also contain an abundance of useful information about our coatings: www.fluorolast.com.

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