FIELD COATINGS GUIDE

Application and surface preparation guide for high performance primer and topcoat systems for outdoor/field-applied installations

Your resource for solutions!

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APV® ENGINEERED COATINGS

INTRODUCTION

NeverFade® is one of APV Engineered Coatings most advanced exterior coating chemistries. The product is formulated with polyvinylidene fluoride (PVDF), a tough engineered thermoplastic that offers a unique balance of properties.It holds universal recognition for outdoor exposure applications within the architectural industry. NeverFade® product systems: **NeverFade® with Kynar Aquatec®, NeverFade® with Kynar® ADS II, W-1500 Universal Primer, W-1650 Bonding Primer, and Two-component Corrosion Resistant Expoxy Primer.**

PRODUCT LIST

WATER-BASE

TOPCOAT

NEVERFADE® WITH KYNAR AQUATEC® FOR METAL

P-SERIES | CUSTOM COLOR

SOLVENT-BASE

TOPCOAT

NEVERFADE® WITH KYNAR ADS II® FOR METAL

A-SERIES | CUSTOM COLOR

WATER-BASE

PRIMER

W-1650 BONDING PRIMER FOR KYNAR® 500 SUBSTRATES

W-1650

SOLVENT-BASE

PRIMER

CORROSION RESISTANT EPOXY PRIMER

K-9020 + (K-9021 CATALYST)

WATER-BASE

PRIMER

W-1500 UNIVERSAL PRIMER

W-1500

SURFACE PREPARATION

Please thoroughly review the Cautions section of this guide prior to proceeding with the application process. There are numerous OSHA standards that cite how, where, and when workers need to be protected. You should consult OSHA, local, and equipment officials before starting the job to ensure your complete compliance with the law to avoid any liability issues.

Although APV's coating systems have been designed to apply over a wide variety of surface types, some substrates require additional preparation. Always consult your APV technical representative regarding each project. In all cases, the substrate must be properly prepared as defined in the instructions below and tested using the ASTM D3359 Standard Test Methods for Measuring Adhesion by Tape Test prior to coating the surface.

METAL

Carbon Steel | NACE International (NACE), American Water Works Association (AWWA), The Society for Protective Coatings (SSPC), and the American Society for Testing Materials (ASTM) all make reference to standards that define degrees and methods of surface preparation for carbon steel. The SSPC Vol. 2, Systems and Specifications is the most widely used surface preparation publication, please refer to it or the NACE specifications for the complete text of surface preparation.

When surfaces are properly prepared, the coating will have excellent adhesion and decreased surface contamination. When proper surface preparation is not completed, there is an increased chance of failure. If performed properly, abrasive blasting has been shown to provide the best foundation for a coating, which translates to an increased coating lifetime. The cleanliness of abrasive blast-cleaned steel may be determined by comparison with SSPC-Vis-1 pictorial standards, Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast cleaning.

Measuring your surface profile can provide guidance on adhesion and performance. The surface profile can be closely predetermined by the selection of the type and size of abrasive materials from the tables contained in SSPC and NACE Surface Preparation Specifications or the from the abrasive suppliers data. Four methods for measuring profiles can be found in ASTM D4417, Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel.

To clean carbon steel surfaces; remove all visible oil, grease, soil, drawing and cutting compounds, and any other soluble contaminants from the surface with solvents or commercial cleaning agents. To remove the contaminants, you can wipe, steam clean, or vapor degrease.

Stainless Steel | Always clean thoroughly using cleaners and solvents approved only for use on stainless steel. Otherwise, you may risk stress corrosion cracking. If the substrate requires abrasive blasting to increase mechanical adhesion of the coating system, the height of the profile and the texture should be defined for the operator and as a standard for the work. We do not recommend the use of ferrous metallic abrasives.

Galvanized Steel and Other Non-Ferrous Metals | Always ensure the surfaces are clean and dry. Remove all dirt and dust by using high pressure air or by wiping the surface clean with dry rags. Oil, grease, or any other soluble contaminants should be removed by solvent cleaning. If rusting is present, please remove it completely by hand or power tool cleaning.

Often hot-dipped galvanized steal is treated with coatings or passivation agents. These treatments can prevent proper adhesion of the coating and lead to delamination of the film. Abrasive blasting is the preferred method of surface preparation for passivated surfaces. Please reference ASTM D6386, Standard Practice for Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Product and Hardware Surfaces for Painting.

Before coating, the surface should be examined for defects such as fins, protrusions, bulges and mortar spatter. Any defect should be fixed by grinding or scraping. Repair of surface defects includes patching voids and cracks that may cause discontinuities or an unsightly appearance in the coating. Ensure the patching compound used will be compatible with the coating system by checking adhesion per ASTM D3359 Standard Test Methods for Measuring Adhesion by Tape Test. Scrape off heavy deposits of non-degraded release agents, fats, oil and wax with an appropriate solvent or steam clean with an acceptable solution. Repeat all cleaning steps until contamination is removed, then flush the area with clean water to remove residual cleaning solution. Consult a supplier to provide assistance in choosing an adequate cleaning chemical. Always ensure that the cleaning solution is maintained at a constant temperature level to keep the contaminants soluble until they are removed. Make sure all substrates are completely dry before coating.

Aluminum | Remove any powdered, oxidized surfaces with a scrubbing pad. Rinse thoroughly and allow to dry before top coating. (Do not use steel wool with water reducible coatings as rust streaking may result.) Prime the surface with **Corrosion Resistant Epoxy Primer** or an APV approved metal primer.

Previously Coated Metals | The surface preparation over an existing coating system varies on type of chemistry, exposure conditions, and other variables. The condition of the existing coating system will indicate whether overcoating, removal or repainting is a good solution. The amount of corrosion present, number of coats, adhesion between coats and exposure conditions are some of the factors that need to be considered before a specifier can make an overcoat or complete removal decision. In all cases, refer to your APV technical representative for guidance on this decision.

APPLICATION

Follow the guidelines on surface preparation and application thoroughly. Inadequate surface preparation and application can lead to coating failure and/or under-performance.

TEMPERATURE AND ENVIRONMENTAL FACTORS

Ambient air temperature is pertinent to coating performance and cure. Be sure to check that the air, surface, and material are between 55°- 85°F and at least 5°F above the dew point. Avoid application if precipitation is expected within 24 hours and/or if air or surface temperature is expected to drop below 35°F within two days. Do not apply paint in direct sunlight as the flow, leveling and application characteristics will be adversely affected.

Wind Velocity | High wind velocity can severely impair spray application which can result in loss of materials, low film build, excessive dry spray or overspray. It is recommended to delay work until wind conditions are below 15 m.p.h.

Dust and Contamination | Work areas should be protected from conditions where dust and contamination are possible during the application and curing process. Dust and contaminants that settle on fresh applied coatings can impair the integrity of the coating leading to a shorter coating life and reduced performance. Please ensure your work area is free from dust and contaminants. If any previous coatings accumulate dust or contaminants, remove those before adding succeeding coats.

Mixing and Thinning | No reduction necessary. NeverFade® topcoats and associated primer systems should be mixed thoroughly before use with an air mixer for 10-15 minutes. No dilution is necessary for brush or roll application, but all products can be reduced for spray equipment. Please reference the Product Data Sheet for reduction instructions and target viscosities.

Ventilation | Always use adequate ventilation and proper NIOSH approved respirator when applying NeverFade® topcoats and associated primer systems. Avoid breathing mist or sanding dust created by the application or surface preparation.

FILM THICKNESS AND SPREADING RATE

Theoretical spreading rates can be used as a rough guide for determining film thickness. However, to ensure proper film thickness, wet thickness readings should be taken at random locations immediately after application. A Nordson Wet Film Gauge or similar instrument may be used for this purpose.

Dry film thickness may be measure on ferrous metals using a magnetic gauge following the procedure outlined in SSPC-PA2, Sections IV, Paint Thickness Measurement. Readings should be taken in accordance with the specifications standards mentioned above.

Applying the appropriate film thickness is important to the performance characteristics of the coating. Be careful not to apply too heavy of a coat. Excessive paint on the surface may result in runs and sags, producing an unsightly appearance, as well as weak spots in the film. A heavy coat weight may also change the drying properties causing wrinkling or cracking, and adversely affect intercoat adhesion.

BRUSH, ROLL AND SPRAY APPLICATION

NeverFade® and associated primer systems can be applied with a brush, roller, or spray gun. When using a spray application, it is advisable to back-roll surfaces to assure proper wetting of the substrate.

Brush | Nylon/Polyester Brush
Roller | 3/8”-3/4” nap cover
Conventional, HVLP, Airless, & Air Assisted Airless | Consult an APV Equipment Specialist for recommendations on spray tips, caps, nozzles, fluid and air pressures.

STORAGE, HANDLING AND SHELF-LIFE

NeverFade® and associated primer systems have a maximum shelf-life of 12 months when unopened. Water-based products need to be protected from freezing. Please store all coating materials in a cool and dry location between 40-90° F.

CLEAN UP & CAUTIONS

CLEANUP INFORMATION

Always observe good professional hygiene practices and wash hands thoroughly after using our products. Refer to the **Technical Data Sheet** of the individual product formulation for more specific details on clean up.

Water-base | Clean hands immediately after use with soap and water. Use water to thoroughly clean application equipment. This will keep the coating from curing onto the surfaces. Any cured or dried coating left on the equipment will have to be removed with standard grade paint thinner. After cleaning, flush spray equipment with water or a water/solvent blend.

Solvent-base | Clean hands immediately after use with soap and water. Use MEK to thoroughly clean application equipment. This will keep the coating from curing onto the surfaces. Any cured or dried coating left on the equipment will have to be removed with standard grade paint thinner. After cleaning, flush spray equipment with MEK.

CAUTIONS

It is necessary for the integrity of the job that contractors ensure all personnel are properly protected from hazards when coating, or blast cleaning. There are numerous OSHA standards that cite how, where, and when workers need to be protected. You should consult OSHA, local, and equipment officials before starting the job to ensure your complete compliance with the law to avoid any liability issues. Product labels, Product Data Sheets, and Safety

Data Sheets should always be consulted prior to any coating operations, and safety and health details should be addressed prior to implementing these operations. Always dispose of dry, empty containers in compliance with local or state regulatory codes.

First Aid | In case of eye contact, flush with water for 15 minutes. In case of skin contact, wash with soapy and water. If you experience difficulty breathing, seek a fresh source of air. In all cases, if you continue to experience discomfort, seek medical attention immediately. All products are for professional use only. Do not take internally. Keep out of reach of children. **Refer to the Material Safety Data Sheet for safety instructions.**

WARNING! Removal of old paint may generate fumes and dust that contain lead. This may be a step in the surface preparation process outlined previously. Lead can cause serious health issues. For more information regarding the proper protective equipment, containment, and cleanup for the removal of lead based paints contact the **National Lead Information Center at 1.800.424.LEAD or contact your local health authority.**

The information and data given herein are based upon tests and reports considered reliable and are believed to be accurate. However, due to varied application and handling methods, no guarantee of duplicate performance, expressed or implied, is made.

NeverFade® topcoats are formulated with a specialized pigment system. Some colors may require a different pigment chemistry to achieve a proper color match to the standard provided. The colors that do not incorporate the NeverFade® pigmentation system, therefore, will not be covered under the warranty. APV will notify all customers if the chosen color falls outside of this system.

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