



SURFACE PREPARATION INSTRUCTIONS

DEFINITION OF TERMS

The terms listed will be used frequently throughout this article and listed in boldface for ease of reference. They describe, in detail, the methods, procedures and meanings that *LifeLast, Inc.* adheres to. Please read them carefully.

DEGREASE

The process of degreasing a substrate involves the removal of oil or grease-like organic or non-organic materials that could impair bonding of the coating to the substrate. Degreasing a substrate involves the use of a solvent or other **cleaning** agents such as ammonia, bleach, hydrochloric acid, citric acid, lye, or any other material that will dissolve or react with contaminant to remove it from the area. Common **degreasers** are acetone, methyl ethyl ketone, xylene, toluene, ammonia, glycol ethers, and hydrochloric acid. If the material that is used as the **degreaser** leaves a residue (such as hydrochloric acid or acetic acid or one of the citrus based **cleaners**) the residue must be removed before the coating is applied. Caution should be exercised to verify compatibility between all **cleaning** agents and **degreasing** agents used (i.e. - do not use bleach with ammonia).

CLEAN

Cleaning the surface of the substrate is defined as the removal of all contaminants. This is typically done with ammonia or a solvent such as acetone. Dust removal can be done with the use of a vacuum system that has a suction power of 80 psi or more. Contaminants to be **cleaned** or removed would include dust, dirt, residue from degreasing, waxes, oils, etc. The condition of the surface after **cleaning** is contaminant free. There should be no residues, oils, or dusts. Caution should be exercised to verify compatibility between all **cleaning** and degreasing agents used.

PROFILE

A **profile** is the creation of a texture on the surface of the substrate to be coated. The texture of **profile** is created by blasting the surface with a solid or liquid media or grinding the surface with a sanding disc.

The blasting media that are preferred are as follows:

1. Steel Grit
2. Alumina
3. Garnet
4. Black Beauty
5. Green Diamond
6. Steel shot
7. Silica sand
8. Soda blasting (does not create a **profile**)
9. Soft media blasting (does not create a **profile**)

The surface preparation methods for creating a **profile** that are preferred are as follows:
(in order of preference)

1. aggregate blasting (not including silica sand)
2. shot blasting
3. abrasive wheel grinding (16 grit and larger)
4. roto peening
5. silica sand blasting
6. soft media blasting (on concrete only)

LAITANCE

Laitance is the weak silicious material that is found on the surface of some concrete. The **laitance** is fine in texture and is the result of troweling. Repetitive troweling brings the fine sands of the concrete to the surface. The fine sands create a smooth texture but are weak in tensile strength. The removal of the **laitance** ensures bonding strengths that would be the maximum for that particular concrete. In some cases, bond strengths of 50-75 psi are suitable, thus the removal of the **laitance** is not necessary. If bond strengths of 150 psi are desired, one of the two options are: 1) the removal of the **laitance** is not required but the use of **LifeLast Primall-EP** over a **clean** surface is, or 2) the removal of the **laitance** but no priming would suffice. If bond strengths in excess of 300 psi are required, then the removal of the **laitance** and the use of **Primall-EP** is required.

DEVIATIONS FROM THE RECOMMENDED SURFACE PREPARATION PRACTICES WILL VOID ANY WARRANTIES MADE BY **LIFE LAST, INC.** CONCERNING PRODUCT BONDING UNLESS THE DEVIATIONS ARE PRE-APPROVED BY A **LIFE LAST, INC.** TECHNICAL REPRESENTATIVE.

ALUMINUM

CLEANING AND DECONTAMINATION

Make sure that the surface is free of any dirt, old coatings, oils, or grease. Solvent wiping or the use of a commercial grade degreaser is suggested. It is critical to remove any oils that are a part of the metal with a steam or vapor degreasing technique. A profile must then be established that meets SSPC-SP10 or SSPC-SP5 standards by sandblasting. The profile must be a minimum of 3 mils.

Before applying the primer, thoroughly clean the surface to be coated and the surrounding areas of dust, dirt, and debris. After the primer has been applied, solvent wipe the surface before the final coating is applied.

Used aluminum should be prepared such that it resembles new aluminum. If this can not be accomplished, the contractor faces the possibility of disbondment. In such an instance, it would be wise to obtain a release of liability from the owner of the structure.

ABRASIVE BLASTING

The substrate should be abrasive blasted to provide a surface that is clean and free of any loose materials. Wet blasting with sand injection is acceptable if the moisture is dried and does not hinder the coating process. Dry blasting techniques are preferred, but care should be taken not to remove any more material than is necessary. Sharp edges should be rounded by wire brushing or sanding. An anchor pattern similar to coarse sand paper is the type of surface to achieve.

The surface preparation methods for creating a **profile** that are preferred are as follows: (in order of preference)

1. aggregate blasting (not including silica sand)
2. shot blasting
3. abrasive wheel grinding (16 grit and larger)
4. roto peening
5. silica sand blasting

ACID ETCHING

Acid etching is not advised even though it is a procedure that is often performed.

FINAL CLEANING

After all substrates are prepared, surfaces adjacent to the work area shall be cleaned of dirt, blasting residue, and other debris to prevent wind-blown contamination of the prepared substrate or freshly applied coatings.

Just prior to primer application, surfaces to be coated are to be power vacuumed to remove all dust, dirt, blasting residue, and debris. Transitions into adjacent areas not to be coated shall be neatly taped off or protected.

If you have any questions about the above procedures please consult a ***LifeLast, Inc.*** technician at the phone number on the bottom of this page.

APPLICATION OF PRIMALL-EP

The purpose of priming aluminum is to increase the bond strength of the urethane. It is highly recommended that aluminum substrates be primed with Primall-EP prior to applying ***LifeLast*** urethanes. Please refer to Primall-EP Application Instructions for application details.

APPLICATION OF LIFELAST, INC. URETHANE COATING

The application of the ***LifeLast*** urethane coating should be in compliance with the recommendations found in their respective application instruction sheets.

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