



SAMPSON COATINGS

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EXTERIOR SURFACE PREPARATION GUIDELINES

To achieve the maximum performance and long term protection from any type of coating, the painter must start with a sound surface and prepare the surface according to good painting practices and the recommendations of the paint manufacturer. Good surface preparation requires that the surface is clean, in good repair, free of dirt, chalk, mildew and loose, flaking or peeling paint. The National Paints & Coatings Association (NPCA) estimates that over 90% of all exterior paint failures can be attributed to poor or inadequate surface preparation.

EXTERIOR SURFACE CLEANING

Paint will not adhere properly to a contaminated or dirty surface. All exterior surfaces should be cleaned completely prior to application of any coating material. A thorough preparation often requires extensive washing and just as important, a thorough rinsing of the surfaces after cleaning. Rinsing or flushing after washing is necessary to prevent soap and/or chemical residue in the cleaning solution from becoming a contaminate.

All dirt, chalk, grease, salt and mildew residues must be removed.

Minor accumulations of dirt and chalk can often be removed by scrubbing with a stiff brush or broom to loosen the contaminant followed by a high pressure water wash, or, at minimum, a strong spray from a garden hose. Heavy deposits of grease, soot or salt (effervescence) must be removed with high pressure water washing (1800 psi minimum) to insure total cleaning of the surface.

Power washers will substantially reduce the time for surface preparation work and can be very useful for removing loose paint. Care should be taken when using power washers near windows, lighting fixtures, outlets and glass doors. Using excessive high water pressure can damage wood surfaces and break glass.

Always spray in a downward or horizontal arc to prevent the spray from lifting or damaging siding panels. For proper cleaning, the spray head must be held perpendicular to the surface and relatively close to the surface.

The performance and potential hazards or problems vary with equipment. Always follow the directions of the equipment manufacturer and the store personnel where you rented or purchased the equipment.

Some people prefer the traditional method of washing by hand. This method should only be used for small areas. Use of a mild detergent and warm water is the best solution to achieve the proper preparation.

Mildew is a spore growth, often noticed by its black color. It is usually found on the north and east sides of buildings and under eaves and areas where little or no sunlight reaches the surface. Mildew must be completely removed prior to the start of any coating application.



To determine if the area in question has mildew, select a spot-test area and wipe the test area with a cloth soaked with household bleach; take precaution such as wearing gloves and face or eye protection to prevent skin contact or eye contact with the bleach. A dark color contaminant is most likely mildew if the bleach makes the dark color disappear.

Mildew can be removed with bleach and the bleach may be added to the washing solution or the pressure wash solution to quickly clean the surfaces. Stubborn areas can be hand cleaned with a scrub brush and a solution of one part bleach and three parts clean water. Commercial products are **also** available for this purpose.

Efflorescence (a white deposit found on masonry surfaces) must be removed prior to application of any coating material. A stiff bristle brush oftentimes will loosen the deposit but usually a wire brush cleaning will be needed to completely loosen the deposit. Follow this cleaning with a high-pressure water cleaning or have the surface professionally sandblasted to insure total removal of all efflorescence.

Any other stains that are visible on the surface must be identified and removed completely prior to the start of the paint application. One common stain on wood surfaces is a "tannin" stain. It is most often found on pine, cedar, mahogany and redwood near the "knot" areas on the wood. If left untreated, tannin stains will often "bleed" through the new coat of paint. These areas should be sanded thoroughly and primed with a stain-killer product or shellac.

Chemical stains can be caused by acids, caustics and the improper use of cleaning chemicals (such as the use of undiluted household bleach for removal of mildew). Once identified as chemical stain, they should be removed with a detergent solution or a cleaning compound specifically designed and recommended for that particular type of stain.

Some common stains remedies include:

- One part non-sudsy ammonia to nine parts clean water
- One cup white -vinegar to one quart water
- One cup borax to one quart clean water

The cleaning of stains and mildew will require the use of bleach, detergent, commercial cleaning compounds, a power washer, buckets, scrub brushes, wire brushes, sponges and cloths.

CAUTION: Always use proper safety equipment, such as a full face shield, eye goggles, rubber gloves, long sleeve shirts, hat, lanolin hand creams for exposed skin, etc., to insure your complete protection during the cleaning process. Consult and follow recommendations on the packaging of the material being used.

After completely cleaning the surfaces, visually inspect the entire structure with a pad and pencil to determine the areas that need repair. This includes checking the stability of the structure and scrutinizing for damaged or rotting wood or siding, trim or windows that need to be replaced. Use top quality acrylic caulks for the repair of all cracks, holes or gaps. The use of silicone caulks should be strictly avoided because silicone caulks cannot be painted with conventional paints. Wood areas that need repair may be filled with wood filler, exterior spackle or other commercially available patching and filling compounds.

Old caulk or filler that is cracked, eroded or of unknown quality should be removed and replaced with new caulk or filler.

Be sure to inspect closely:

- where surfaces meet windows and doors
- where siding and masonry surfaces meet
- where wood, siding and metals form joints
- around dryer vents
- around exhaust vents
- around any other type of opening on the surfaces (e.g. electrical outlet openings, etc.)

CAUTION: Use care around electrical area. If you are not sure, contact your electrician for more information prior to starting any work.

Inspect windows and doors for missing glazing putty between the glass and frame and repair.

Loose, peeling and flaking paint must be removed prior to painting. It should be scraped with a surface preparation tool and sanded before a primer is applied. All edges of remaining paint around a prepared area must be sanded smooth and tight to the remaining paint film to reduce edge curling during and after application of the new paint.

Other methods for surface repair and removing paint are available and should be considered depending on the severity of the problem. For example commercial strippers and heat guns can be used to remove several layers of paint to bare wood. For just one or two layers of paint, power sanding could be used.

CAUTION: Older homes built prior to 1960 should have their paint films checked for "lead" prior to removing down to the bare substrate surface. There are strict federal, state and local regulations on the removal of lead containing coating systems.

Power washers may be used but work must be done carefully on loose coatings so as to not cause excessive water to permeate into the interior of the structure. Pay extra attention when power washing near window sills. They are exposed to all the elements that weather and sun have to offer and usually are the earliest to show wear. Inspect all nail heads (nail heads are usually galvanized) and mark rusty nail heads for nail replacement or spot priming prior to the final coating application.

Nail heads should be sunk into the wood and the area over the nail head should be protected with wood putty and sanded before the final coating application.

Glossy surfaces should be "sanded" to dull the gloss. This provides the surface with a "profile" that helps insure the adhesion of the new coating to the prepared surface. Other preparations are available, such as a commercial liquid sander, steel wool, or special adhesion primers designed to be applied directly over glossy surfaces. Should you decide to try one of these other kind of preparations instead of sanding we highly recommend that you first test it on a small area before committing the time and energy to prepare the whole job in this fashion. All of these other preparations do work most of the time if applied according to the manufacturer's instructions however sanding is the only sure way to insure proper adhesion.

NOTE: Wood surfaces should always be sanded to insure adhesion of the new coating - primer and finish.

After all surfaces have been cleaned and prepared properly, you must do three tasks prior to painting. Completely wipe off all the surfaces to be painted. This includes all dust from sanding and as previously mentioned any potential cleaning solution residue to allow for the best possible paint to surface adhesion. Apply masking tape or painter's tape to protect areas that you do not want to paint. Remove tape as soon after painting as possible to insure that the coating film will not cure and tear when the tape is removed.

Protect your shrubs and flower beds by covering them with light weight drop cloths. Remove the cloth as soon as possible after an area is completed so that the flowers and shrubs will get air and sunlight. Use two people, if possible, to gently lift the drop cloth. Never drag or pull the drop cloth across a bush or shrub.

Cleaning compounds or other chemicals used to clean exterior surfaces may present health risks. The paint applicator should read all information, direction and, most importantly, the safety warnings on every item used, including the paint.

Sampson Coatings urges all its customers to use safety equipment and read the directions twice before starting any procedure for the cleaning, repairing or painting of a structure.

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