

painting **today's new substrates**

To Change Color, Enhance Appearance and Provide Protection



The Rohm and Haas Paint Quality Institute



The Rohm and Haas Paint Quality Institute provides unbiased, generic information about paints, painting and how to obtain a quality paint job. Rohm and Haas Company is a major, global supplier of raw materials to paint manufacturers, and conducts extensive formulating and testing of many types of paints, primers, stains and other coatings. This brochure is designed to help painting contractors and do-it-yourself painters successfully paint various exterior materials, in order to obtain custom color and sheen, and provide enhanced protection against the elements.

In order to create a long lasting, fully satisfactory paint job, it is important to follow the "Four Steps to a Quality Paint Job":

1. Do Proper Surface Preparation

- to ensure good adhesion to the surface
- to discourage corrosion of the surface
- for uniformity of color and sheen or glossiness
- to prevent discoloration of the coating from the surface

2. Use Quality Tools to Apply a Thick, Uniform Coat

- top quality brushes have long polyester and/or nylon bristles with flagged tips that apply paint with minimal brush marks
- quality rollers have nap designed to apply a heavy, uniform coat

3. Apply a Quality Product Designed for the Job

- top quality products will apply in a heavy, uniform fashion, which is important for appearance and durability
- quality products will provide maximum adhesion, color retention, mildew resistance, and general durability

4. Apply the Coating Under Proper Conditions for Optimal Performance

- a paint job can be ruined by application in cold weather, if it gets cold in the next day or so, or when the surface is cold; follow the manufacturer's directions closely
- avoid painting under conditions that foster very fast drying, like painting in bright, direct sunshine; breezy weather; low humidity; high temperature; or on a porous surface

Many newer exterior products, ranging from siding material to railings, columns, windows, stairs and decks, are made with durable materials designed to stand up to the elements. Most of these products may be successfully painted in order to:

- alter the overall color
- change color of selected parts to complement trim and other building elements
- refresh the appearance; change degree of gloss or sheen
- enhance protection of the material



House Photo Courtesy of CertainTeed Corporation



Factory-finished Aluminum

- Clad window sashes and frames
- Storm and entry doors
- Columns
- Railings
- Siding



These materials usually have a factory-applied solution- or powder-coating, and often have a glossy finish. After years of weathering, released pigment ("chalk") may appear on the surface. Any glossiness and chalk must be taken into account when preparing the surface.

Surface Preparation

- Treat any mildew with a 3:1 water:bleach mixture, leave it on for 20 minutes; then rinse the surface thoroughly; wear eye and skin protection.
- Remove any white, powdery oxide with a non-metallic scouring pad.
- Lightly sand glossy areas with very fine (#220) sandpaper to eliminate gloss; do not expose the metal substrate; wipe off residual dust.
- Remove all dirt, treated mildew and dust by washing with detergent solution, and rinse thoroughly. Careful power washing with plain water is an alternative way to clean exterior surfaces.



Priming

Where the factory finish is intact and in good condition: For best adhesion and uniformity of the finish coat, apply a quality latex primer that is recommended for use on factory-finished aluminum. Stain-blocking primers offer excellent adhesion. Priming may be omitted on large areas such as siding, assuming powdery "chalk" is removed, bare metal is not exposed, and a quality paint, as described below, is used.

Where bare metal is exposed: Apply an exterior latex corrosion-inhibitive primer. For best uniformity of appearance, prime the entire area, including the factory finish.

Painting

Apply a top-of-the-line exterior 100% acrylic latex paint. Sheen or gloss level may be flat, satin, semigloss or gloss, depending on the appearance desired. A second coat will increase the life of the paint job, but is not essential if the appearance is acceptable. Bear in mind that higher sheen levels tend to accentuate unevenness and dents that may be in the surface. A flat finish is recommended for siding that is at all dented; otherwise, a satin finish will provide a rich, factory-fresh appearance. While quality brushes and rollers are suitable for painting railings, doors, columns, etc., spray application will provide the maximum uniformity on siding.



Vinyl and PVC Materials

Polymer/Wood Mixtures

- Window sashes and frames
- Railings, fences, and lattice
- Decking, walkways
- Fascia
- Siding

These materials generally are PVC, or mixtures of cellulosic material with PVC, polypropylene, polyethylene or nylon. After years of weathering, released pigment ("chalk") may appear on the surface. Avoid painting rigid vinyl, especially vinyl siding, with a dark color, because the color may absorb the sun's heat, and warp the panels irreversibly. As a rule of thumb: do not paint vinyl siding any darker than its original color. Do not attempt to paint any material if the manufacturer recommends against it.

Surface Preparation

- Treat any mildew with a 3:1 water: bleach mixture, leave it on for 20 minutes; then rinse the surface thoroughly; wear eye and skin protection.
- Lightly sand all glossy areas with very fine (#220; no coarser) sandpaper to eliminate gloss; wipe off residual dust. (Do not use liquid deglosser on this type of surface.) If the surface has been previously painted, remove any paint that is exhibiting poor adhesion by very careful scraping.
- Remove all dirt, treated mildew and dust by washing with detergent solution and rinse thoroughly, or by carefully power washing.

Priming

For best adhesion, resistance to cracking, and uniformity, apply a quality exterior or latex stain-blocking primer that is recommended for use on vinyl materials. Prime and paint all cut edges and ends of polymer/wood mixtures. Priming may be omitted when painting large areas such as siding, as long as the surface is thoroughly cleaned, and a quality paint is used as described below.

Painting

Apply a top-of-the-line exterior 100% acrylic latex paint. Any sheen or gloss level may be used, depending on appearance desired. A second coat will increase the life of the paint job, but is not essential. High sheen levels tend to accentuate uneven surfaces. A flat or satin finish is recommended for siding. Do not paint vinyl siding darker than its original color. While quality brushes and rollers are suitable for painting railings, columns, etc., spray application will provide maximum uniformity on siding.

For decking, steps and walkways: Apply a quality exterior latex floor and deck paint in a satin or semigloss finish. Allow to dry for several days before putting into service.



Polyester, Fiberglass, Synthetic (Polymeric) Stone Materials

- Columns, balustrades, railings
- Quoins
- Louvers
- Benches
- Interior trim, cornices

These materials generally are molded or cast polymeric materials (polyester, epoxy, acrylic) with mineral fillers such as limestone, talc or clay. After years of exterior weathering, released pigment ("chalk") may appear on the surface.

Surface Preparation

- Treat any mildew with a 3:1 water: bleach mixture, leave it on for 20 minutes; then rinse the surface thoroughly; wear eye and skin protection.
- Lightly sand all glossy areas with very fine (#220) sandpaper to eliminate gloss; wipe off residual dust. (Do not use liquid deglosser on this type of surface.)
- Remove all dirt, treated mildew and dust by washing with detergent solution and rinse thoroughly, or by carefully power washing.

Priming

For best adhesion and uniformity, apply a quality latex stain-blocking primer recommended for use on this type of material. Do not apply oil-based or alcohol-based (shellac-based) primer in exterior situations.

Painting

Apply a top-of-the-line exterior 100% acrylic latex paint, or a top-line interior latex coating. Any sheen or gloss level may be used, depending on the appearance desired. A second coat will increase the life of the paint job, but is not essential if the appearance is acceptable. Higher sheen levels tend to accentuate unevenness that may be in the surface. For exterior furniture, use a quality exterior latex satin or semigloss product recommended for this use by the manufacturer.



Photo Courtesy of Style Solutions™ Inc.



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EIFS (Exterior Insulation and Finish Systems)

- Residential and commercial exterior wall systems
- Cornices
- Arches
- Columns
- Keystones
- Cornerstones and quoins
- Moldings

These are exterior wall systems with the outermost layer consisting of an acrylic-modified sand mixture. Just as stucco may be painted for protection and for decorative purposes, EIFS may be successfully painted with suitable coatings, given proper surface preparation.

Surface Preparation

- First, be sure that all cracks and openings are sealed properly with a quality acrylic or siliconized acrylic sealant. Consult with EIFS contractor, EIFS manufacturer or builder as to what openings, if any, are to be left unsealed for water drainage.
- Treat any mildew with a 3:1 water: bleach mixture, leave it on for 20 minutes; then rinse the surface thoroughly; wear eye and skin protection.
- Remove all dirt, treated mildew and dust by washing with detergent solution and rinse thoroughly.
- Remove any old paint exhibiting poor adhesion by careful scraping.

Priming

For best adhesion and uniformity of the finish coat, apply a quality exterior latex stain-blocking or masonry primer that is recommended for use on this type of material. However, if maximum moisture-vapor permeability is required, do not prime.

Painting

Apply a top-of-the-line exterior 100% acrylic latex flat or satin paint that is recommended for masonry surfaces. One coat of a flat paint will provide maximum moisture-vapor permeability. Take into account that, depending on surface profile before painting, application of paint may alter the appearance of the wall. An elastomeric wall coating (EWC) may be applied if recommended by the installer.

Do not paint silicone caulk or coatings made with fluorocarbon polymers or modifiers. Siliconized acrylic caulks are quite different, and are paintable with quality latex paint and stain.



Fiber Cement Siding

- Lap siding
 - Smooth
 - Wood-textured
- Shingle siding
- Soffits

This is exterior high-density material made from cement and fiber formed into durable, flat siding and soffits. It is supplied factory-primed, to be painted prior to or after construction; sometimes it has a factory-applied color finish coat.

Surface Preparation

- First, be sure that all cracks and openings are sealed properly with a quality acrylic or siliconized acrylic sealant. Do not seal side or bottom edges unless directed by manufacturer.
- Treat any mildew with a 3:1 water:bleach mixture, leave it on for 20 minutes; then rinse the surface thoroughly; wear eye and skin protection.
- Remove all dirt, treated mildew, efflorescence and dust by washing with detergent solution and rinse thoroughly, or carefully power wash with plain water.
- Remove any old paint exhibiting poor adhesion by careful wire-brushing or careful power washing with plain water. Wear eye and skin protection, and a dust mask if wire-brushing.

Priming

If unprimed and unpainted, apply a quality exterior latex stain-blocking or masonry primer that is recommended for use on this type of material. Even if the material is factory-primed, has a factory-applied finish coat, or has previously applied paint that is weathered and chalking, apply this same type of primer for best adhesion and uniformity of the finish coat.

Painting

Apply a top-of-the-line exterior 100% acrylic latex paint that is recommended for masonry surfaces. Any sheen or gloss level may be used, depending on the appearance desired. A second coat will increase the life of the paint job, but is not essential. A quality elastomeric wall coating (EWC) may be utilized. EWCs bridge cracks that may form in the substrate as a result of changes in outdoor temperature. Apply in two heavy coats, achieving at least 14 mils (.014") dry film thickness. Do not paint silicone caulk or coatings made with fluorocarbon polymers or modifiers. Siliconized acrylic caulks are quite different, and are paintable with quality latex paint and stain.

Photos Courtesy of CertainTeed Corporation





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For additional information on paints and painting, visit The Rohm and Haas Paint Quality Institute Web site at www.paintquality.com