

**TECHNICAL BULLETIN 102****GENERAL APPLICATION OF ACRYLIC FINISHES**

Acrylic finishes have been widely used on Exterior Insulation and Finish Systems (EIFS) in commercial construction for nearly 20 years in the United States. In the last 5 years, they have become increasingly popular for use in residential construction. With the exceptional flexibility and color uniformity associated with acrylic finishes, many projects are specified with these seemingly “fail-proof” finishes.

**Pros and Cons:**

The acrylic finishes available today are far superior to those used 20 years ago, and continue to evolve as technology and raw materials improve. These improvements include the use of soft acrylics, which impart elastomeric properties. Elastomeric finishes offer greater resilience and durability, as well as the ability to bridge and hide minor cracks in the basecoat. It is important to be aware of manufacturers that continue to produce acrylic finishes not considered elastomeric.

Acrylic finishes are quite different from portland cement based finishes in many ways. Vapor permeability ratings, for example, can drop below 9 for an acrylic finish, versus 35 for portland cement. Additional finish applications may further reduce this breathability. Three or more layers can create a vapor barrier on the wall surface, potentially trapping moisture within the base system. If this happens, recurring freeze/thaw cycles can result in deterioration of the basecoat and delamination of the finish. After several finish applications, it is also possible that acrylic finish materials will need to be removed or covered with an entirely new system in order to refinish the wall. In contrast, portland cement finishes may be properly applied in multiple layers without ever effecting system performance.

Acrylics are also subject to deterioration and fading caused by the alkalinity of portland cement. When newly applied, portland cement products have extremely high pH levels. These levels, harmful to acrylics, will drop significantly during the first month following installation. To avoid possible problems, follow strict portland cement basecoat curing procedures before finish application.

**Recommended Installation Techniques:**

Proper basecoat application and curing techniques are vital to the longevity of acrylic finishes. Apply portland cement products only when ambient and surface temperatures are above 40°F. If the material freezes prior to application or during the curing process it will never reach its full potential strength. If temperatures are too warm, excessive drying may occur. Care should be taken in order to achieve a uniform basecoat surface temperature.

Portland cement basecoats must be properly moist cured. This is accomplished by water misting 2 – 3 times a day for at least 3 days following application. The plaster retains its original moisture, stimulating the chemical hydration process. Improperly moist cured portland cement basecoats may attain only a fraction of their original potential strengths. After moist curing, air cure an additional 28 days to ensure surface pH levels fall to 9.5 or less.

Next, apply a quality penetrating surface conditioner. EL REY'S PERMA-FLEX 400 masonry conditioner increases surface hardness and density, while isolating the high pH of portland cement basecoats. The chance of peeling and fading is greatly reduced. All paint and coating manufacturers recommend preparation of portland cement surfaces with a suitable masonry conditioner.

Depending upon the desired result, acrylic finishes may be troweled or spray applied using a hopper gun. During summer months, avoid applying material to surfaces that are too hot or in direct sunlight. It is also important to surface the material immediately, since working time is reduced under hot conditions.

Winter applications may also present an obstacle<sup>1</sup>. Apply acrylic finishes only when temperatures are above 40°F. Take steps to assure uniform temperatures are maintained during application and curing. Allow at least 7 hours drying time.

**Conclusion:**

Acrylic finishes are beautiful, long lasting, and durable. When applied correctly, acrylic finishes provide years of reliable service. It is, however, extremely important to follow manufacturer instructions and recommendations before, during, and after application.

If you have questions or concerns, please contact EL REY at the numbers listed below.

<sup>1</sup> See TECHNICAL BULLETIN 103 for detailed information on cold weather application of acrylic finishes.



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