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HANDBOOK

THE MOST COMMON QUESTIONS ASKED ABOUT LATH & PLASTER

A Knowledge Base for
Estimators & Project Managers

APPTEK
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Company Information

APPTEK STUCCO
Established 2001

Legal Entity: Apptek Inc.
Residential and Commercial Lath • Plaster • Scaffolding •
Interior Plaster

Website: www.apptekstucco.com
or www.stucco101.com

Licensing & Insurance info available on website
References and Testimonials available on website

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Certifications / Training:

•Dupont TYVEK • Senergy Acrylic Finish
• Scaffolding – Competent Person & Erector Trained
•Liquid Applied Window & Bldg. Envelope Training

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COMPELLING REASONS FOR DOING BUSINESS WITH APPTEK

- *We do what we say we are going to do … Consistently… it's in our culture*
- *Same Core Management and crews have been working together for years*
- *We are consistently reachable at all levels – rapid response to calls and needs*
- *Foreman on every substantial job*
- *We are a state-of-the-art, professionally run business*
- *We go the extra mile to clean-up to high standards every day*
- *Attention to detail – and self management*
- *Fast Bid Turnaround - We are "all digital"*
- *Detailed bids – options and value engineering recommendations included*
- *Apptek standards exceed "Industry Standards"*
- *Apptek's warranty 2 year written warranty (vs. industry standard of 1 year)*
- *If there is a problem after completion or warranty, we'll be there to help*
- *Conventional Smooth AND Synthetic (Acrylic) Finish Experts*
- *High level Interior and Venetian plastering capability*

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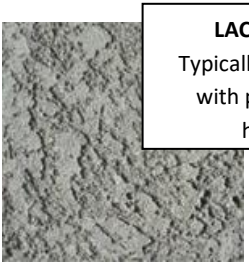
Common Stucco Textures

LACE FINISH
Typically associated with production homes



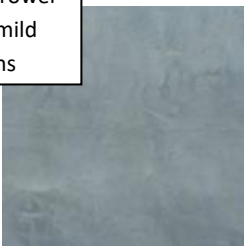
20/30 Sand
Affordable Level Fine Sand Finish –smaller sand particles

16/20 Sand
Utilitarian Sand Finish – slightly larger sand particles

"Montalvo"
AKA "California Finish"
Smooth trowel with "cat faces"

"Dash" Finish
Semi Smooth spray texture – machine applied

"Santa Barbara "
Classic smooth trowel finish – some mild imperfections



"Smooth"
Or "smooth Santa Barbara"
Classic smooth trowel finish
-almost perfectly smooth

***NOTE ON ACRYLIC / SYNTHETIC TEXTURES**
Acrylic finishes are available in Fine Sand, Medium Sand, Semi Smooth and Smooth textures – similar to exhibits shown here

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Acrylic Stucco vs. Conventional Stucco

Acrylic (Synthetic) vs. conventional stucco refers to the finish coat (or "color coat") of stucco. The base coats (typically "scratch and brown") are the same for both. The "conventional stucco" that most of us are familiar with has been around forever. Its simple ingredients include cement, aggregates (sand or crushed rock), lime, and color. 90%+ of the stucco you see most everywhere is conventional stucco.

Acrylic stucco (sometimes known as "synthetic" stucco) contains polymers that give the product more elasticity along with other characteristics that may be deemed beneficial.

Here are some pros and cons of synthetic stucco:

Pros: Due to the elasticity of the polymers in acrylic stucco, the product is innately more crack resistant than conventional stucco. The product is also more water resistant than conventional stucco and reduces the tendency for moisture to permeate the base coats as you often see with conventional stucco. Accordingly, acrylic stucco may have a longer life in areas of harsh conditions, like ocean impacted properties.

Acrylic stucco is more color stable and will tend to have less color variegation (mottling) than conventional stucco. Also, with acrylic stucco, color matches can be near perfect and virtually any paint color can be matched - perfect matches are not always possible with conventional stucco. For contemporary architecture many times the designer prefers the consistent color stability that is achievable with acrylics.

Cons: Acrylic stucco is typically more expensive than conventional stucco. Acrylic stucco, due to its color stability may not be appropriate for more classic architecture like Mediterranean because designers may prefer the classic more variegated look of conventional stucco - an authentic look that is more difficult to achieve with synthetic products. Also, some designers prefer the variegated look as well as the ultra smooth trowel effect that can be achieved with conventional stucco.

Stucco Colors

Acrylics can be perfectly matched with most any paint color. Conventional color matching is a bit more of an art. Color variegation in conventional is common and should be expected.

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Black Building Paper vs. Polymer Based Building Papers

The "Weather Barrier" for stucco buildings has historically been classic black building paper. The new Polymer based papers (like Tyvek) are receiving wider acceptance these days.

In discussing its Tyvek product, DuPont states that black paper can absorb water, thus retaining some unwanted moisture in the wall system. In addition, black paper is made up of cellulosic fibers which can act as a food source for mold. The combination of a moist condition due to retained moisture and the presence of a food source make black paper susceptible to mold growth.

One rather powerful observation is that when we have done repairs or re-stucco on projects of 25 years or older, we have somewhat consistently found that many times the old building paper (classic black paper) is badly degraded and basically non-performing. We are comfortable that the new synthetic building wraps will weather the decades better.

It should be noted that today's building codes require that two layers of building paper are required on shear panel surfaces (most California buildings now have shear paneling on the majority of the structure). When Tyvek is chosen as the primary building paper, the normal configuration is Tyvek as the Inside layer, and Black Paper outside. Apptek is a certified installer of Tyvek.

New Liquid Applied Building Envelope Systems

The new liquid applied (or "fluid applied) building envelope and flashing systems consist of roll or spray-on liquid weather barrier systems that can be used in lieu of conventional black paper or synthetic building paper and/or flashing systems. These fluid applied systems reduce the potential for water intrusion through overlaps, gaps, and penetrations and also minimize air intrusion - an important goal for "Green" or "Passive" buildings.

Though more costly than traditional systems, these new products are receiving much attention and broader acceptance in the industry driven by current building performance goals. Apptek has experience in these systems and has received training from leading product suppliers.

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About Re-stucco

The primary factors driving the need or desire to re-stucco a home or building are typically either the deterioration of the old finish, or a desire to update the look of a stucco structure.

The first step is to determine the structural integrity of the old stucco. If it is structurally sound, the process is fairly simple: clean the surface as necessary to promote a good bond, apply an acrylic (synthetic) modified base coat, and then apply a new finish coat in the chosen new texture. Previously painted stucco may require other bond enhancing measures, and in certain situations Apptek may recommend a core sample be taken to test the subsurface integrity.

If the old stucco is only moderately damaged, the damaged areas can be manually scraped by hand or with mechanical grinding equipment to remove the unstable areas, then those areas must be appropriately filled in and leveled (with acrylic modified base material), followed by the leveling coat of the same material, then the new finish coat.

Sandblasting is a Disruptive Process but Sometimes Necessary

Finally, if the old stucco is severely degraded it will need to be sandblasted prior to prep for new finish. Sandblasting is a disruptive process and must be performed by professionals with proper protections for windows, doors, fixtures, landscaping, neighboring properties, etc. The result, however, is a stable surface for a robust bond to the acrylic-modified fill and leveling coat that provides a base for the new finish coat.

Please note that when sandblasting is required, it is critical to determine if there is the potential for lead content in old painted surfaces. If the property was constructed prior to 1979, and there are painted surfaces, a lead test by a qualified lab is required. If lead is found (in above-threshold quantities) an approved mitigation procedure must be included in the sandblasting process.

Note: Due to current environmental mandates, if sandblasting is required for an Apptek job, the owner / contractor must contract directly with the sandblasting specialist.

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About Stucco Cracking

All stucco will crack, just like all concrete will crack. Stucco has, by its nature, a very low coefficient of elasticity. There are two fundamental types of stresses that cause stucco cracks: Internal and external. Internal stresses are due to the natural curing and drying process of stucco, this usually takes place within 1 to 2 days of installation. External stresses are due to the transfer of outside forces into the stucco assembly.

The most serious cracks in stucco are caused by the external stresses of building movement. This can be from settling, or stresses caused by structural movement, such as movement related to a significant cantilever (like a protruding deck), or movement caused by earth work, and machinery working near the newly plastered structure.

There is really nothing that a stucco contractor can do to prevent cracking that is caused by building movement. In instances where potential building movement is a concern, it is advisable to postpone finish coat for as long as possible so that as much movement as possible takes place before the final finish coat.

External forces caused by other subcontractors after the installation of stucco can result in serious cracking. An example is that drywall should always be installed before stucco because the forces caused by installation can distort framing members and result is serious cracking. The same can happen as a result of hammering of internal walls or the hanging of substantial weight on internal walls (after stucco) which can also distort framing members and result in cracking.

How to Reduce Cracking On A Smooth Finish - Smooth finishes of conventional stucco will always experience some level of cosmetic cracking. So in order to minimize the tendency to crack, a "Crack Reduction System" (CRS) consisting of fiberglass mesh & acrylic-modified (synthetic) base coat over the brown coat can be done prior to the installation of the finish coat. This is the optimum strategy to reduce cracking. This process adds cost to the overall system, but will absolutely improve the resistance to substantial cracking. The CRS system does not guarantee that there will be no cosmetic cracking, but should substantially reduce the propensity. Additionally, smooth acrylic finishes will, by their nature, always have less cosmetic cracking.

Crack Repair - Crack repairs can be readily performed on most stucco textures, but smooth finish stucco, by its nature is more difficult. A perfect repair on smooth finish is quite difficult without recoating the entire panel of stucco repair area.

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Water Intrusion in Stucco Buildings

Is Stucco Waterproof? Stucco is water resistant, but not water proof. Moisture can permeate somewhat into the stucco but despite the mistaken belief of certain stucco "experts", free water or liquid water will not flow through properly installed stucco.

How Then, Does Water Get Inside The Stucco System? Far and away the most typical source of water intrusion is from roofs, windows, doors, and other penetrations of the stucco. If water enters the interface of those intrusions, this water can end up inside the building envelope, and if unable to promptly exit, can do great damage to the system, and provide a fertile field for mold growth, etc. Water can also enter the system by "wicking up" from the ground in certain instances of improper or obsolete installation, or when site conditions including landscape watering have not been properly managed.

What Can Be Done To Prevent Water from Entering the Stucco System? The key to preventing water from entering the stucco system is proper installation in the first place. This means that great care was taken to properly waterproof the structure and all penetrations utilizing all of the latest technologies. In the event of failures after the fact all of the following needs to be considered:

1. Roofs: If water is allowed to enter the system because of roof problems, there is nothing the stucco contractor can do to correct. The roof must be first properly repaired, and then the stucco contractor can review and repair the stucco system as necessary.

2. Windows and doors: If there are leaks near windows and doors, the first step to identifying the problem is to rule out the window itself. Isolated testing can be done to make that determination. Once the window or door has been eliminated, the interface between the window and the stucco should be examined. In this event, the likely failure is the gap between the window and stucco that can sometimes allow water penetration through that gap. In that event appropriate repairs can be made with follow-up testing. In some cases the failure may require windows to be removed and reinstalled but not until other less invasive repair methodologies have been deemed ineffective.

3. All other wall penetrations: everywhere there is an exterior light fixture, electrical outlet, plumbing fixture etc., a potential leak point exists. Water damage in proximity to these items can be caused by gaps or openings associated with those penetrations. Evaluation and repairs of these failures can be performed and the problems can be corrected.

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How to Develop a Quick Budget Number for Lath and Plaster

To develop a lath and plaster budget for a job you are reviewing, we suggest you put together a quick outline of the following so we can help you with a budget number ASAP.

- Determine the square footage of wall areas to receive lath and plaster. This should be calculated without deductions for normal windows or doors, but large store fronts and window walls can be deducted from the calculation.
- Determine if the framing is wood or metal.
- Determine the square footage of Lids (ceilings requiring stucco).
- Determine the specified stucco finish (e.g. sand, smooth, dash, acrylic, etc).
- Determine the building height for scaffold calculations – note if there are special requirements that increase difficulty, like substantial high overhang areas and long spans that will require special trusses, etc.
- Determine if there are any specialized trim required like fry aluminum reveal, and drip screeds other than the typical base screed and then calculate the linear ft. total of those trims.
- Determine if there are specifications that require the use of above-standard materials or practices such as polymer building paper (like Tyvek), or specialized rain screen, liquid applied weather barriers, or hand installed furring nails for lath attachment, etc, because these type add-ons can substantially increase costs.

Of course we'll always be willing to look at the plans to help you develop your budget as fast as we can, but with the above information, it will help us get it to you even faster.

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How to Accelerate Your Lath & Plaster Schedule

1. **Be fully ready for lath** – The lathing process will be much more efficient (and much faster) if the project is truly ready. It is beneficial to meet with your Lath Superintendent prior to the completion of installation of the windows and doors. He will walk the project with you to review and discuss areas where backing is needed, locations and elevations for screeds and expansion joints, proper electrical box depth, etc.

Also, it is very important that the roof be loaded, and drywall loaded in upper stories prior to the commencement of lath. This is because the settling of the building as it accommodates the loading can distort the lath and tear the moisture barrier in a way that can impact the building integrity. When these conditions are in place, the lath team is able to move efficiently and continuously – helping your schedule.

2. **Be ready for scratch & brown** – Scratch coat should only be commenced AFTER drywall installation. This is because if scratch and brown are done before drywall, the drywall installation can cause unwanted cracking of the cement matrix. Significant forces are placed on the framing members as drywall screws distort the framing along with other impacts associated with the drywall installation process. Because the drywall is in the critical path of stucco application, its timely scheduling will impact your overall schedule.

3. **Use fast curing products when beneficial** – The schedule for a typical stucco building (of moderate size) is: scratch coat 1 day, then a day or two cure time, then one or two days for the brown coat and at least a week or two curing before finish coat. This process can be accelerated by using cement blends incorporating components that greatly shorten cure time from as many as 21 or more days to as few as 3-5 days.

Eisenwall is the product we use with the quickest cure time. With Eisenwall, you can scratch, brown, and color in the same day. It does cost more (approximately $1.30 per square foot more), but when the schedule is critical, it is an option that can be considered. At Apptek, we have had extensive experience with Eisenwall, and have found it to be consistently reliable.

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Synthetic Semi-Smooth

20/30 Sand


Conventional Smooth


Synthetic Smooth


Conventional Detail


Conventional Smooth


Synthetic Semi-Smooth

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