



Portland Cement-based Plaster (Stucco) provides you with one of the hardest and most durable exterior finishes available. Stucco, along with paint and caulk, comprise your first line of defense from water intrusion. Here are some tips to keep your stucco looking good and performing as intended.



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Technical Bulletin

Stucco & Building Exterior Maintenance

What you should do!

Wash your stucco as needed to keep its surface clean and bright.

Follow the instructions below for general, light, maintenance cleaning. For moderate to heavy cleaning, you may want to choose one of the more aggressive methods described in ASTM E 1857, "Standard Guide For Selection of Cleaning Techniques for Masonry, Concrete and Stucco Surfaces," available from www.astm.org.

Painted Surfaces: Always check the paint manufacturer's specifications and recommendations before using any detergent, cleanser, bleach or other chemical on painted areas. However, in most cases the procedures laid out below should be acceptable.

Pre-wet: Use a garden hose with a jet nozzle to pre-wet the wall over the entire surface. Pre-wetting will overcome a possible absorption problem and will prevent the stucco from absorbing dirty wash water. Set the nozzle to a medium to coarse spray. Start at the bottom and work your way to the top.

Wash: When the surface has been pre-wetted, adjust the nozzle to a "pressure stream". Then direct the stream of water against the wall to loosen dirt and dust. "Caked on" dirt may need to be removed with a brush. Note: Avoid eroding the finish by holding the nozzle a sufficient distance from the surface. Be extremely careful of using pressure washers to clean stucco as they can achieve pressures sufficient to cut the stucco surface.

Use cleanser if necessary: Sometimes it may be necessary to use a mild cleanser to remove stains. It is desirable to determine the source and cause of the stain before cleansing. Some stains require specific treatments. However, recommended for most common stains is a mild solution of trisodium phosphate, TSP. This is available at most paint or hardware stores. Should you choose to use a different product, be sure it is water-soluble (dissolves completely in water). The product should also be safe for Portland Cement. Note: Do not use soap or dishwashing liquid! It is always recommended to test your cleaning solution on a small, inconspicuous area first. Do not let the solution dry on the wall.

Rinse: Flush the wall thoroughly with clean water to remove loosened dirt and cleansers.

If you find Mildew: Wash the area with a mild solution of three parts water, one part household bleach. You may also use an enzyme product, specifically for this purpose, which penetrates the cement matrix to kill the mold spores. Find them on the web through a search for “mildew.” Always observe the proper safety precautions when using any chemical or cleanser.

Irrigation systems: Be sure to keep water directed away from the stucco wall. Over time mineral oxides or chemicals in the irrigation water can stain the finish. This could also cause mildew (a fungus) or efflorescence (a white powdery “bloom”) to form.

If you find efflorescence: Spray the effected area with white vinegar. This should neutralize the alkaline efflorescence. After a few minutes, but before the vinegar dries, brush and rinse the area with clean water. You may also use a brick or masonry cleaner but you should check the manufacturer’s directions and test it on a small area for reaction with the paint. Efflorescence is caused by mineral salts leaching out through the stucco from behind. To prevent re-occurrence of efflorescence, you must find and repair the condition allowing water to get behind the stucco. Eliminating the moisture source will eliminate the efflorescing. Cleaning may be required several times over a period as long as six months to allow all the moisture to dry out of the wall system. For more information on efflorescence see the National Concrete Masonry Association’s “Control And Removal of Efflorescence”, NCMA Tek 8-3-A available through the NCMA at www.ncma.org .

Inspect your building annually!

Caulking: Regardless of the advertised life of the caulk material used, it should be inspected routinely for peeling, cracking or separating. Building movement can at times exceed the caulks ability to stretch, thereby resulting in separation. Most water penetration of wall systems occurs around penetrations in the wall system (i.e....windows, doors, hose bibs, etc...). Re-caulking should be done annually but not limited to hose bibs, exterior doors and windows. Check around power outlets and services and anywhere there is a penetration of the stucco. When applying caulk, the product selected should be paintable. Maintaining caulked joints and seams can prevent many instances of water intrusion. See the caulk manufacturer’s literature for instructions on the proper procedures for re-caulking.

Re-caulking: Caulking should be checked routinely for cracking, peeling and/or separation. Repair or re-caulk as indicated by the manufacturer’s recommendations or as needed.

Re-painting: Paint should be inspected at least annually for evidence of chalking, peeling, cracking. Re-paint as necessary. Make sure to follow the manufacturer’s guidelines for re-painting and repair.

Cracking and Repair: Though most cracking can be prevented during the construction process, the potential for some cracking will always be present. While stucco is extremely high in compressive or impact strength, it is not of sufficient tensile strength to resist building movement. Therefore, stucco should be routinely checked for cracks. Determining the cause of the cracking is the key to proper repair procedures. Cracks should be dealt with immediately. For information on crack repair, see either the Portland Cement Association’s technical note “IS526 Repair of Portland Cement Plaster” or the American Concrete Institute’s “ACI 524R-04 Guide to Portland Cement-Based Plaster.” IS526 can be downloaded from PCA at www.cement.org. ACI 524R-04 is available for download at www.concrete.org.

Minor: Stucco will expand and contract in response to temperature, sometimes creating minor hairline cracks in the outer layer of the stucco application. This is normal behavior and considered a routine maintenance item after the first year warranty period. These minor hairline cracks can be repaired by scraping the loose material from the crack and using a paintable caulk or flexible crack sealer to fill the gap. The texture can be more easily simulated by broadcasting stucco sand onto the fresh caulk before it cures. Most paint manufacturers produce an elastic crack sealer product specifically for this use. They are available under several different brand names. Consult your paint supplier for specific brands.

Moderate: Building movement cracks should be repaired following the procedures laid out in IS526 “Repair of Portland Cement Plaster” (Stucco) from the Portland Cement Association or the American Concrete Institute’s “ACI 524R-04 Guide to Portland Cement-Based Plaster.”