



# BUILDING ANALYSTS



"Sir, it appears you have stucco cracks!"

# WHY STUCCO CRACKS

## WHAT IS STUCCO?

Stucco or portland cement plaster is a mixture of portland cement and aggregate (sand) and other code approved materials that is used as wall and ceiling covering. Stucco is a component of a wall system usually used in conjunction with building paper and lath. Stucco is commonly used in the southwestern states but can be found in other areas of the country.

## WHY DOES STUCCO CRACK?

Stucco is a brittle material and has very little ability to flex. Stucco will crack; occasional "hairline" cracks are common however, larger or more extensive cracks can become a problem. Cracking can be separated into two main categories:

- 1 Internal Stress** - Portland cement shrinks as it hardens or cures. This is an inherent attribute of the materials. The results of this shrinkage may be cracking at the point or path of least resistance or at the center of large panels with no relief. Relief, expansion or control joints may help reduce or contain cracking by limiting the size and configuration of stucco areas.
- 2 External Stress** - External stress forces act on the cured stucco. Forces such as earthquakes, ground swelling or settlement, windloads, thermal expansion and contraction can translate into cracks in stucco. Moisture enters stucco wall systems through cracks and where stucco abuts other materials such as a door and window frames. Moisture can get behind the stucco wall system through other building components such as roofs and decks.



## WHERE ARE CRACKS COMMONLY FOUND?

- 1** Openings at windows, doors and vent openings
- 2** Changes in sizes of wall areas at points of higher stresses
- 3** Areas where stucco is of uneven thickness, such as along second floor lines
- 4** Where stucco abuts other materials
- 5** Locations in the field of stucco where wire lath is improperly lapped or attached

## WHEN ARE CRACKS IMPORTANT?

Cracking can be an indicator of various conditions. Cracking may indicate:

- 1** An inability of a structure to adequately withstand a structural force
- 2** Indication of water intrusion from a variety of sources
- 3** Unproperly installed lath and/or plaster

**Building Analysts** is a full-service architectural and engineering firm with many years of experience in construction litigation. Our services include: architectural and structural investigations, repair recommendations, preparation of exhibits and expert testimony. We hope this newsletter is helpful. Please contact Stan Livingston, Pete diGirolamo, Bob Carroll or Dave Kuivanen if you need our input or recommendation:  
(619) 234-8153, or toll free 1-800-352-1497  
or e-mail us at [analysts@buildinganalysts.com](mailto:analysts@buildinganalysts.com)

*Building Analysts' newsletter is intended to provide general information for those involved in construction litigation. The topics contained in this publication are abbreviated and applicability to a particular situation may vary according to circumstances. Since design and construction technologies change over time, the information contained herein may become outdated. Building Analysts recommends you contact the appropriate design professional for specific information regarding individual projects.*

SPRING / SUMMER 1999

NEXT ISSUE: **The Mystery of Wet Floors**