

COSMOPOLITAN CHRONICLE

True tales from the annals of history, archaeology, construction, and restoration of the Casa de Bandini and Cosmopolitan Hotel.
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Why Historic Lime Was Used

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On-site investigations of the Casa de Bandini/Cosmopolitan Hotel have revealed that exterior and interior adobe walls on the first floor had been continuously painted and plastered with hydrated lime or lime putty throughout the 19th century.

Lime was used because of its compatibility with adobe and other porous materials, its availability, and its workability. Adobe absorbs moisture, and thus any protective coating must not trap the moisture allow it to in a word, 'breathe.' Lime is a permeable material that allows moisture buildup in adobe to vaporize and escape. It was available in San Diego in the form of seashells, especially oyster shells, which contain high levels of calcium carbonate. Another source of lime was cow bones from the 1830s into the early 1860s when cattle ranching was San Diego's economic mainstay. Lime is highly workable after it has

been fired in a kiln (1250-2150 °F) and combined with water. Missions San Diego de Alcalá and San Juan Capistrano both had kilns when Juan Bandini embarked on building his casa in 1827.

In a process called 'slaking,' quicklime (or calcium oxide) was added to water in a pit either on-site if enough water was available or, if not, near the San Diego River or *La Playa* (The Beach). Lime is always added to water, not vice-versa because the process releases heat and can explode. This is especially true of non-hydrated lime. This process would create lime putty. It remained in the water for perhaps several days to fully hydrate; thereby, enhancing its workability as a mortar, plaster, or paint (or whitewash).

Lime plaster and mortar differ from lime paint in several ways. They are harder, putty-like materials used on the exterior, including covering adobe walls, laying fired bricks and stone foundations. They require a longer slaking period to prevent blistering or spalling of the finished surface, and they are mixed with sand, usually at

a ratio of 1 part lime to 3 parts sand.

Bandini maintained rigid hygienic standards, and used lime because he knew that it killed funguses and germs. Lime has a high PH factor. Archaeologists discovered several small lime-pit sites in room #105. This was Bandini's kitchen, where cooking was done over open hearths. In 1847, he installed a brick-lined drainage system across the floor to keep the room as clean and rodent-free as was then possible. His servants frequently hauled household 'slops' to the beach where they were buried in holes to be swept out to sea.

When Bandini first used white wash and lime plaster to protect his beloved home is uncertain, but it is clear from the historic record that his 'mansion,' as it was called, was the pride of this frontier outpost—the defining symbol of his elite status. By the 1840s, the casa boasted such features as pane-glass windows, fired clay tiles and patio bricks, a veranda built with planed redwood posts, a lime mortared well, and bath house.

