

montecito JOURNAL

winter | spring • 2009/10



BUILDING FOR

BILLIONAIRES

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structures

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Creating Fire Resistant Montecito Modern

Warner Group Architects used steel and glass to
frame ocean & mountain views

The peace and tranquility of living in Montecito or Santa Barbara can change very quickly as three wildfires in rapid succession that ravaged this area in 2008 and 2009 illustrated. The three fires, named after the areas in which they began – Zaca, Tea, and Jesu-sita – burned and/or destroyed hundreds of homes and, of course, hundreds of thousands of wildland acres. Many residents, especially those with large estates near what is called the wildland-urban interface have felt the fear of fire and concern for home protection.

With that thought in mind we turn toward Modern Architecture for tips on fire-preventive building techniques.

Modern architecture is often defined through the expression of:

- 1) clean geometric forms as building ornament;
- 2) large expanses of glass to capture both light and views;
- 3) a palette of building materials pleasing to the eye and the hand.

Stemming from technology and engineering developments of the Industrial Revolution, in conjunction with the availability of materials such as



Staggered corner windows allow every bedroom to capture mountain views

iron, steel, and glass, a new style of architecture emerged, one in which the use of form and materials creates a much more fire-resistant structure than its wood-clad counterparts.

Understanding that, let us examine three Montecito Modern examples of fire-resistive architecture:

A building's skin is as important as its form when it comes to fire resistance. In these residences, plaster was used due to its cost, fire-resistant nature and ability to be painted. Since large overhangs, exposed roof eaves and rafter tails can trap and spread fire, the underside of Loggia roofs and overhangs in these homes are covered in exterior plaster, steel, or glass for additional protection. Metal cladding installed over fire-resistive gypsum board, or locally quarried Santa Barbara Sand Stone are popular highly fire-resistant materials, but command a premium price versus the use of plaster.

There are many ways to protect a roof from fire, such as standing-seam metal roofs, fire-rated composition shingles, and rooftop sprinkler systems; more avant-garde methods include roof ponds and

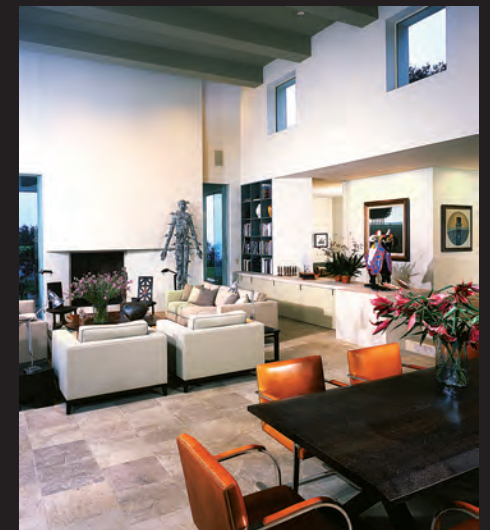
sod-capped roofs. In the case of the East Mountain Drive residence, the flat-roofed parapet is designed to fill with water, creating a temporary roof shield in the event of fire.

As seen in the Pepper Hill Residence, exposed steel can be both aesthetically pleasing and highly fire resistant. Metal-clad windows withstand direct heat and flame much better than traditional wood or vinyl windows. Large double-glazed metal windows and ½"-thick laminated glass is used to maximize views and insulate these modern residences. Double-glazed windows act as an efficient thermal barrier, unlike single-pane windows, which can crack under heat, allowing fire inside. Single-pane glass can also transmit enough heat to combust carpet, furniture, and draperies inside the building from an adjacent external fire. In high fire hazard areas, non-flammable felt curtains can be used to further reduce heat transference inside structures.

Taking advantage of this area's temperate climate, many rooms open to the outside, creating indoor/outdoor living spaces where



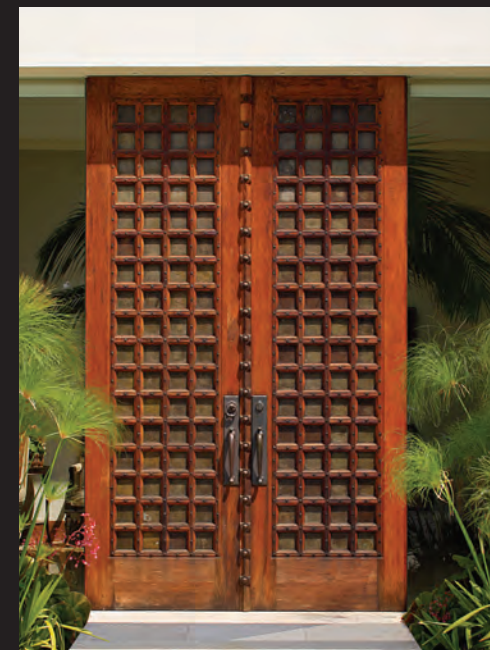
Natural light is expressed through the use of floor-to-ceiling windows, corner glass, strategically placed skylights, and glass floors



fire-resistive materials flow inside with the use of stone, concrete, steel, glass, and fire-rated gypsum board, while ceiling sprinklers are poised overhead.

Low, lush landscaping is used around the residences to preserve views and prevent a fire "ladder" effect, whereby large and easily combustible foliage leads up to structures. The most simple and effective first step in fire prevention is brush clearance around the property. Montecito Fire Department suggests removing all native flammable brush up to 100 feet around the house and the removal of all dead wood up to 200 feet in severe fire hazard areas.

With an arsenal of fire-resistive features, these Montecito Modern residences may just be too hot to burn.





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