

Project Brief

**Malibu Residence**  
**Concrete Repair & Preservation**



Malibu, CA, USA  
September 2001



Located in Malibu, California the ocean front residence had been pounded by the surf over the years. The owner was becoming more concerned with further damage to the supporting columns and beams.

The supporting girders and beams had suffered severe corrosion due to the aggressive marine environment. Columns suffered moderate to tenuous cracks and general concrete spalling.

First, all loose and damaged concrete was removed and then steel reinforcement lost to corrosion was estimated. Next, the Tyfo® CIS corrosion inhibitor was applied to all exposed steel and then the Tyfo® concrete repair products were used to patch the absent concrete and preserve. After estimating the steel reinforcement lost to corrosion Fyfe Co. engineers designed the Tyfo® laminates to add the necessary reinforcement in flexural, shear, and confinement deficiencies. Finally, the Tyfo® Systems were coated with a thickened epoxy coating to protect them from the abrasive nature of ocean tides and sand.

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