



# Wood Pile Rehabilitation

High Performance Long-Term Pile Restoration and Encapsulation

## Five Star® Pile Jacket Epoxy Grout HP

Woodbridge, VA

### Five Star® Pile Jacket Epoxy Grout HP

#### Advantages:

- Excellent flowability and versatility
- Can be pumped or poured into place
- High bond and compressive strength
- Moisture insensitive before, during and after cure
- Excellent adhesion to masonry, concrete, wood, steel and most structural materials
- Adjustable aggregate

#### Applications:

- Encapsulation material
- Corrosion protection for steel, concrete and wood piles

Established in 1954, Hoffmaster's Marina, located in Woodbridge, Virginia, evolved to accommodate a growing boating business and expanding customer base of boat owners. Over this period of time, the support piles for Hoffmaster's two boathouses and docks underwent severe levels of degradation due to tidal action and marine growth.

Replacement costs for these structures would have been an extremely expensive undertaking. More importantly, a shutdown required for replacement pilings would have negatively impacted daily business operations at the marina.

Five Star® Products, Inc. recommended a cost effective pile restoration solution which would ensure durable, long term structural repair without any impact on the daily business operations at the marina.

Bidding and selection of project participants was based upon many factors, including past performance and expertise in this very specialized area of repair and restoration. K&M Marine, Inc. of Lusby, Maryland was awarded the \$450,000, 198 pile rehabilitation project for Hoffmaster's two boathouses.

The project was done in two phases. The first phase was finished in 30 working days in the fall of 2005, with the second phase completed in the spring of 2006. In the first phase of the project, K&M Marine determined which piles were to be repaired and the extent of pile deterioration in each of those piles.



Wood pile rehabilitation in Woodbridge, VA

K&M Marine carefully scheduled the project to avoid inconveniencing the boat owners. The jackets were brought from the storage trailer down to the pier work area. The job moved smoothly because the jackets had been premeasured and identified to fit the specific piles in the marina. K&M Marine proceeded to prep the jackets for installation and fill them with Five Star® Pile Jacket Epoxy Grout HP at a minimum of 12 piles every 4 days.



The Five Star® Pile Jacket Epoxy Grout HP was mixed in a ChemGrout® pump and pumped from the dock into the jackets. Filling was simplified by the pre-installed 1" fittings located near the center of the jacket which allowed for easy hose connection. Because of the flowability of the Five Star® Pile Jacket Epoxy Grout HP, and the diver's ability to easily monitor the grout filling the jacket, the pumping went very quickly and smoothly.

Mike Weldon, the owner of K&M Marine, Inc. said "The combined system of Five Star® Pile Jacket Epoxy Grout HP and the pile jackets was the simplest and fastest he had ever used," and that he and his divers were looking forward to their future projects working with Five Star® products.

The repairs to the 198 piles at Hoffmaster's Marina were finished on time and on budget due to the expertise of K&M Marine, the products used, and the field support provided by Five Star® Products. Most importantly, Hoffmaster's remained open every day during construction...not a single day of business was lost during the pile repair project.



*K&M diver suiting up to Prepare the jackets*



*Grout pump and Five Star® Pile Jacket Epoxy Grout HP*



*Hand capping the pile to finish the rehabilitation*



*Completed pile jacket rehabilitation with jacket in place*

**Five Star® Services:**

- Design-A-Spec™ engineering specification assistance
- Technical on-call center with field and project experienced staff
- Field support representatives for on-site consultation
- Corporate research laboratory available to customize products for unique applications



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