

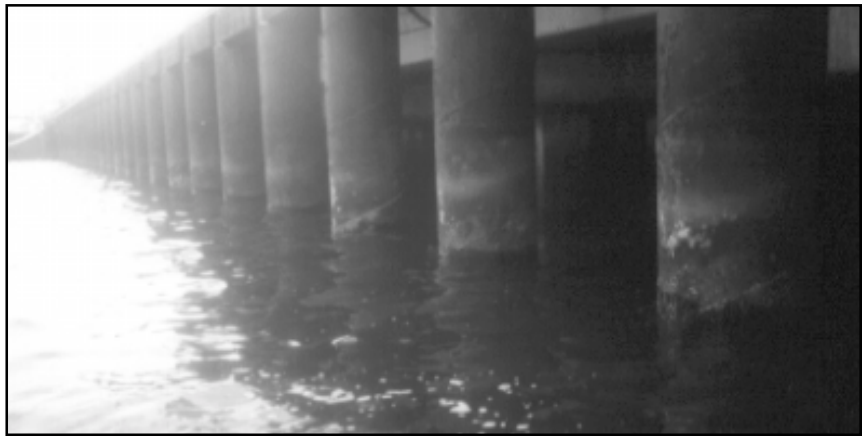
# Polyurethane Protected Sheet Pilings Outperform Coal Tar

Madison's 100% solids polyurethane coating dramatically outperformed a coal tar epoxy system in protecting steel pilings at the Trident Submarine Base in King's Bay, Georgia over a 5 year period.

During the spring of 1986, the U.S. Navy commenced construction of its new Trident submarine base. The program involved 200,000 square feet of steel sheet pilings and a similar quantity of pipe pilings. The sheet pilings were coated with Madison's Corrocote II Classic and the pipe pilings were protected with coal tar epoxy. Both coating systems met the Navy specification 68-81-3020 Sec.09805. No cathodic protection was used.

The pilings were coated by Durabond Applicators of Export, Pennsylvania in the spring of 1986 and installed by the J.A. Jones Construction Company during fall of the same year. Brad Norris of Durabond estimated that the total applied cost of the Madison polyurethane was 20% less than that of the coal tar epoxy.

Forty per cent of the pilings supported a permanent infrastructure of docks and piers. The remaining pilings were used to construct a temporary drydock facility for use over a five year period in the



**Steel pilings at the Trident Submarine Base**

rehabilitation of submarines. As part of the Navy's plan, these pilings were removed during the summer of 1990 and scheduled for disposal. The removal process revealed something spectacular: the pilings coated with polyurethane were in such pristine condition they could be re-used or sold for a future project. Further inspection of the permanent pilings coated with polyurethane proved they were also in excellent condition.

Even after five years of abrasion, salt spray and tidal activity, the polyurethane exhibited no flaking, brittleness, cracking or delamination. Large sections of the sheet pilings had little or no barnacle growth and where barnacles were located, they had not grown into

the coating and were easily removed. There was some spot corrosion where the coating had been gouged as a result of severe abrasion. However, the rust did not extend beyond the damaged areas.

The coal tar epoxy pilings did not fair as well, although they were coated at approximately the same time with the same surface preparation and exposed to the same service conditions. The epoxy blistered and delaminated in many spots. There were large areas where the steel had rusted through the coating and the barnacle growth was extensive and difficult to remove. Contact Madison to learn how you can benefit from our polyurethane technology.



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