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# Applications of High-Frequency Pulsed Water Jets for the Removal of Marine Coatings

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## ABSTRACT

Experiments are in progress on the removal of several types of marine coatings with ultrasonically modulated high frequency pulsed water jets. Following an extensive laboratory investigation, a pre-commercial prototype has been manufactured. The machine has been tested for the removal of several types of marine coatings. Removal rates typically of the order of 50 ft<sup>2</sup>/hr were obtained at water pressures as low as 5,000 psi. Although continuous water jets are becoming increasingly popular for the removal of hard coatings, the magnitude of pressure employed is well above 15,000 psi. Thus, pulsed water jets offer distinct advantages compared to continuous water jets and conventional removal systems such as sand blasting, needle gun techniques, etc. Since low pressures are involved, compact portable machines which are safe, user and environmentally friendly, can be manufactured at competitive costs. The paper will discuss the fundamentals of pulsed water jet technology followed by experimental results on the removal of several types of marine coatings.

