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Industrial Cleaning with Ultra-Clean Water According to the Qlean-Method – A Case Study of Printed Circuit Boards

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Abstract

The manufacturing industry today uses many kinds of chemicals in its cleaning processes. The industrial cleaners often contain some sort of degreasing chemical to clean parts and components before the main processes, for instance assembly or surface treatment. These types of cleaning methods are often expensive and involve hazardous handling of chemicals in manufacturing, as well as in the transportation of hazardous waste. In addition, the cleaning processes often use a substantial amount of energy for cleaning.

The aim of this paper is to explore how ultra-clean water cleaning, using a method called Qlean, can be applied in the manufacturing industry. In order to meet this aim, a case study was conducted at Flextronics, in Karlskrona, Sweden. The data for this research was collected through interviews and functional tests at different industries, which then was analysed further.

The results from this research show that using solvent-free industrial cleaning with ultra-clean water is beneficial from the perspectives of quality, environment and business. The quality improvement derived from using solvent-free industrial cleaning in the case of cleaning printed circuit boards was the most important benefit.

Keywords: *Ultrapure, De-gassed, Cleaner Production, Qlean, SOFIQ project.*