

A Study on Reliability Analysis and Life time Improvement Method by Field Failure of Vibro Hammer

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ABSTRACT

Vibro hammer is a construction equipment that uses vibration to drive the foundation piles and H-beams underground. On the work site, vibration is generated and tilting, swinging and jaw opening/closing is made by using the hydraulic pressure and flow rate supplied by the excavator. Since the equipment is usually used overseas or in remote location, the unanticipated failure may lead to excessive down time cost and customer complaint, which is the reason that high durability is demanded. In order to achieve longer life, on-site failure cases have been investigated that have occurred from January 2014 to December 2015. Statistical analysis is carried out to estimate the associated reliability parameters of each module in the equipment, from which the suggestions are made for improving the system reliability.