DensiProbe : A Hybrid Laboratory In-Situ Testing for Determining Field Density

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DensiProbe is equipment that had been invented, as a mean to estimate the in-situ density of a fill, based on some blows from light dynamic penetration test (Mackintosh or JKR Probe). DensiProbe is a combination of light dynamic penetrometer and custom-made mould. The soil samples were compacted in the custom-made mould, and penetration test was conducted for that soil. The compaction and penetration test was repeated for different compaction effort, thus producing different density. From these results, the number of blows versus density curve is developed. Using this curve, penetration test was conducted at the site, and in-situ density can be estimated. This product had won Silver Medal in the International Penang Invention, Innovation and Design (PIID) 2019 and had been published in the 5th GEGEU International Research Seminar 2018. The members involved in this project are Badrul Nizam Ismail, Anas Ibrahim (Dr.), Muhammad Hafeez Osman, Rozaini Ramli and Nor Hafizah Hanis Abdullah.