Determination of plastic limited of soil using modified method

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Abstrak

Plastic limit is an important property of fine-grained soils. The standard thread-rolling method for determining the plastic limit has long been criticized for requiring considerable judgments from the operator. This study was conducted to seek for a new method on the determination of the plastic limit in a way to overcome the inconsistence result produce by using the standard thread-rolling method. Four different methods were tested. The first method was the modified fall cone method, a method commonly used to obtain a liquid limit. The second method was the rolling device method which is previously proposed by Bobrowski and Griekspoor (1992). The third method was proposed by Wood and Wroth (1978) using a heavier cone. The fourth method was the one proposed by Tao-Wei Feng (2004) which made use of a small soil container. Eight soil samples representing plasticity index (PI) ranging from 15 to 42% were tested. The results indicated that the correlation factor between the standard methods and the suggested methods were in the range 0.72 and 0.99. Regarding to the regression analysis result, the first method is more comparable to the standard thread method